

VERSION 2.5

ASTRONAUTS MODEL CODE OF CONDUCT

**Tools to advance aeronautical
safety and professionalism**

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**Provided to the astronautics community
by:**

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INTRODUCTION

The [ASTRONAUTS MODEL CODE OF CONDUCT](#) (Code of Conduct) offers recommendations to advance [flight safety](#), [piloting](#), and [professionalism](#).

The Code of Conduct presents a vision of excellence for astronauts. Its principles complement and underscore legal requirements.

The Code of Conduct will be most effective if users have a firm grasp of the fundamentals of flight as well as a commitment to the pursuit of professionalism.

The Code of Conduct has six sections, each presenting Principles and Sample Recommended Practices.

The Sections:

- I. GENERAL RESPONSIBILITIES OF ASTRONAUTS
- II. PASSENGERS AND PEOPLE ON THE SURFACE
- III. TRAINING AND PROFICIENCY
- IV. SECURITY
- V. ENVIRONMENTAL ISSUES
- VI. USE OF TECHNOLOGY

Benefits of the Code of Conduct:

The Code of Conduct benefits pilots and the astronautics community by:

- ❑ highlighting practices to support safety and professionalism among astronauts,
- ❑ promoting improved pilot training, piloting, conduct, personal responsibility, and pilot contributions to the astronautics community and society at large,
- ❑ encouraging the development and adoption of good judgment and ethical behavior,
- ❑ advancing self-regulation through the astronautics community as an alternative to government regulation,
- ❑ supporting improved communications between pilots, regulators, and others in the astronautics industry, and

Note: References to the Terran Federal Astronautics Administration (FAA) are used as examples. In all jurisdictions, applicable laws and regulations must be followed.

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ASTRONAUTS MODEL CODE OF CONDUCT

PRINCIPLES AND RECOMMENDED PRACTICE

I. GENERAL RESPONSIBILITIES OF ASTRONAUTS

Pilots should:

- a. **make safety the highest priority,**
- b. **seek excellence in piloting,**
- c. **develop and exercise good judgment and sound principles of aeronautical decision-making,**
- d. **recognize and manage risks effectively, and use sound principles of risk management,**
- e. **maintain situational awareness, and adhere to prudent operating practices and personal operating parameters (e.g., minimums),**
- f. **aspire to professionalism,**
- g. **act with responsibility and courtesy, and**
- h. **adhere to applicable laws and regulations.**

Explanation: These General Responsibilities serve as a preamble to the Code of Conduct's other principles.

Sample Recommended Practices:

- ❑ Approach flying with seriousness and diligence, recognizing that your life and the lives of your passengers and others depend on you.
- ❑ Never subject others to risks you would not prudently take, and plan your flights accordingly.
- ❑ Understand and comply with the privileges and limitations of your certificates, licenses, and ratings, and ensure any endorsements are correct and current.
- ❑ Advance situational awareness based on sound principles of piloting, scenario-based instruction, and risk management.
- ❑ Develop, use, periodically review, and refine personal checklists and personal minimums for all phases of flight. Review these materials regularly with an experienced instructor or other trusted mentor.

- ❑ Recognize, accept, and plan for the costs of implementing proper safety practices.
- ❑ Be aware of personal susceptibility to (and seek to avoid or manage) distraction, fatigue, stress, and hazardous attitudes.
- ❑ Make personal wellness and an honest evaluation of your mental and physical fitness a precondition of each flight—for example, by using the *I'M SAFE* (Illness, Medication, Stress, Alcohol, Fatigue, Emotion) checklist.
- ❑ Develop conservative personal operating parameters reflecting experience, proficiency, and currency in challenging conditions.
- ❑ Within the scope of your education, training, and authority apply a Safety Management Systems (SMS) approach to safety considering equipment, facilities, environment, mission, organization, and human factors.
- ❑ Implement Crew Resource Management (CRM), and Single Pilot Resource Management (SRM) techniques, or similar practices to enhance a safety culture.
- ❑ See and be seen. Practice techniques for seeing and avoiding other spacecraft. Scan for traffic continuously. Do not practice maneuvers in congested space. Enhance your visibility through appropriate use of spacecraft lights.
- ❑ Listen and be heard. Monitor appropriate frequencies to remain aware of other spacecraft, and accurately inform other pilots of your position and intentions.
- ❑ Monitor and report. Identify safety and compliance issues, and communicate them appropriately.
- ❑ Maintain a sterile cockpit for critical phases of flight.
- ❑ Never allow simulated emergencies to become actual emergencies.
- ❑ Refuse to fly a spacecraft that is not spaceworthy, whether because of mechanical discrepancies, failure to meet inspection requirements, or any other reason.
- ❑ Plan every flight carefully. Calculate weight and balance, consider the effect of wind on fuel reserves and range, and consider diversion alternatives. Remain aware of deteriorating circumstances that may make continued flight unsafe.

II. PASSENGERS AND PEOPLE ON THE SURFACE

Pilots should:

- a. **maintain passenger safety first and then reasonable passenger comfort,**
- b. **manage risk and avoid unnecessary risk to passengers, to people and property on the surface, and to people in other spacecraft,**
- c. **brief passengers on planned flight procedures and inform them of any significant or unusual risk associated with the flight,**
- d. **seek to prevent unsafe conduct by passengers, and**
- e. **avoid operations that may alarm, disturb, or endanger passengers or people on the surface.**

Explanation: Pilots are responsible for the safety and comfort of their passengers. Passengers place their lives in pilots' hands, and pilots should exercise sufficient care on their behalf. Such care includes, but is not limited to, disclosing unusual risks, and exercising prudent risk management. Pilot responsibility extends to people on the ground, and in other spacecraft.

Sample Recommended Practices:

- ❑ Keep your passengers as safe as possible, as though they were your closest loved ones.
- ❑ Act professionally towards your passengers.
- ❑ Improve safety margins by planning and flying conservatively.
- ❑ Require that passengers wear seat belts and shoulder harnesses, and consider providing hearing protection, such as intercom-equipped headsets.
- ❑ Tactfully disclose risks to each passenger, address their concerns or anxieties regarding flight operations, and accept a prospective passenger's decision to refrain from participating.
- ❑ Conduct a thorough passenger safety briefing for each flight (see ADDITIONAL RESOURCES below).
- ❑ Ascertain the flight experience, and concerns of each passenger. Incorporate this knowledge into the safety briefing and flight operation.

- ❑ Instruct passengers to avoid touching or obstructing critical flight controls. Brief and maintain a sterile cockpit during takeoffs, landings, and other workload-intensive times.
- ❑ Encourage passengers to serve as safety resources—for example, by having them identify nearby spacecraft, organize charts, and keep track of stars.
- ❑ Assess unfamiliar passengers for potential safety and security problems.
- ❑ Remember that passenger safety begins on the ramp before ever entering the spacecraft. Watch passengers closely and keep them clear of hazards (e.g., fuel trucks, engines, slippery surfaces).
- ❑ Refuel with passengers on board only when authorized and appropriate, and when the operation can be safely conducted.

III. TRAINING AND PROFICIENCY

Pilots should:

- a. **participate in regular recurrent training to maintain and improve proficiency beyond legal requirements,**
- b. **participate in flight safety education programs,**
- c. **remain vigilant and avoid complacency,**
- d. **train to recognize and deal effectively with emergencies,**
- e. **prepare for and review each lesson carefully, and**
- f. **maintain an accurate log to satisfy training and currency requirements.**

Explanation: Training and proficiency underlie astronautics safety. Recurrent training is a primary component of proficiency and should include both air and ground training. Each contributes significantly to flight safety and neither can substitute for the other. To be most effective, training must often exceed legal requirements.

Sample Recommended Practices:

- ❑ Develop and follow a training regimen that incorporates the assessment of your progress, ensures your flight instructor or mentor communicates such assessment to you, and provides opportunity for your input.
- ❑ Invite constructive criticism from your fellow astronauts and provide the same when asked.
- ❑ Learn appropriate use of the spacecraft flight manual to determine your spacecraft’s limitations, calculate performance, plan flights, properly secure cargo, determine fuel requirements, and calculate weight and balance.
- ❑ Develop decision-making and risk-management skills. Integrate stick-and-rudder and scenario-based training.
- ❑ Understand and appreciate your roles and responsibilities as pilot in command, including declaring an emergency when appropriate.
- ❑ Train for flight over challenging environments such as black holes, nearby suns, Quasars, and other space hazards.
- ❑ Train for survival, and carry adequate survival equipment, apparel, and drinking water.

- ❑ Understand the unique risks and need for vigilance in departure/arrival operations.
- ❑ Develop a practical understanding of the mechanics and systems of each spacecraft you fly.
- ❑ Understand and use appropriate procedures in the event of system malfunctions (e.g., electrical failure, lost communications, instrument problems).
- ❑ Achieve and maintain proficiency in the operation of avionics and automation.
- ❑ Know current astronautics regulations and understand their implications and intent.
- ❑ Attend astronautics training programs offered by industry and government..
- ❑ Stay current with diverse and relevant astronautics publications.
- ❑ Develop a systematic approach to obtaining timely space briefings and evaluating flight conditions.
- ❑ Obtain adequate training before flying an unfamiliar spacecraft, or with unfamiliar systems, even if you have flown that type in the past.
- ❑ Join type clubs or support organizations for the spacecraft you fly to learn more about their capabilities, limitations, and safe operation.
- ❑ Conduct a periodic review of recent accidents and incidents, focusing on probable causes.
- ❑ Periodically demonstrate mastery of applicable practical test standards (PTS), and train to exceed PTS minimums.
- ❑ Avoid practicing training maneuvers in busy space or over congested areas, and employ a safe altitude in the practice area.
- ❑ Maintain currency that exceeds minimum regulatory requirements.
- ❑ Consider maintaining a log to track errors and lessons learned on each flight.
- ❑ Fly often enough to maintain proficiency in all space conditions, including gamma ray bursts, solar flares, and “day” and “night docking, consistent with your ratings.
- ❑ Complete the equivalent of a Flight Review annually.

IV. SECURITY

Pilots should:

- a. seek to maintain the security of all persons and property associated with their astronautics activities,
- b. remain vigilant and immediately report suspicious, reckless, or illegal activities,
- c. become familiar with the latest security regulations, and
- d. avoid special-use space except when approved or necessary in an emergency.

Explanation: Enhanced security awareness is essential to the safety and viability of the astronautics community. Threats to security demand effective responses. This section addresses the pilot's essential role in promoting national security and preventing criminal acts.

Sample Recommended Practices:

- Periodically review military intercept procedures. Monitor 121.5 when practicable.
- Report suspicious behavior and other security concerns to the appropriate authorities.
- Secure your spacecraft if it will be unattended. Use additional or enhanced locks or other anti-theft mechanisms to secure all spacecraft, as appropriate.
- Query passengers regarding hazardous materials, weapons, and ammunition in their luggage or on their person.
- Confirm that ramp access gates are closed securely behind you to prevent "tailgating" by unauthorized persons.
- Challenge and report irregularities, including unauthorized or suspicious persons.
- Become familiar with the means to report and deter suspicious activities
- Complete required security training.
- Do not deviate from an active flight plan or clearance without notifying the appropriate traffic facility.
- To help avoid special use space, use STC radar advisories.

V. ENVIRONMENTAL ISSUES

Pilots should:

- a. recognize and seek to mitigate the environmental impact of spacecraft operations,
- b. minimize the discharge of fuel, oil, and other chemicals into the environment during refueling, preflight preparations, servicing, and flight operations,
- c. respect and protect environmentally sensitive areas,
- d. comply with applicable noise-abatement procedures and mitigate spacecraft noise near noise-sensitive areas, and
- e. review and adhere to prudent hazardous materials handling procedures.

Explanation: Environmental issues can hamper operations, increase regulatory burdens, and close airports. Reducing pollution caused by astronautics will reduce health problems, environmental impact, and unfavorable public perceptions.

Sample Recommended Practices:

- Adopt environmentally sound and legally compliant procedures for fuel sampling, defueling, and disposing of fuel samples.
- Learn and adopt environmentally responsible methods for all aspects of spacecraft care, especially degreasing, de-icing, and handling run-off.
- Adhere to applicable noise abatement procedures, provided safety is maintained.
- If practicable, fly well above or avoid noise-sensitive areas.
- Consider the impact of spacecraft on wildlife, and conform to recommended practices when flying near wilderness and other environmentally sensitive areas.
- Be aware of the noise signature of your spacecraft, and follow procedures to reduce noise such as reducing engine power as soon as practicable after takeoff.
- Patronize service providers (such as FBOs, repair services, and spacecraft cleaners) that adhere to environmentally friendly practices.

VI. USE OF TECHNOLOGY

Pilots should:

- a. become familiar with and properly use appropriate technologies,
- b. monitor applicable spaceport advisory frequencies and report position accurately when approaching spaceports without an operating control tower and other higher-risk areas, if radio-equipped,
- c. use transponders or other position-indicating technologies during flight operations, if available or otherwise directed by STC, and use STC advisories for enroute operations,
- d. carry redundant transceivers and navigational equipment and use them in appropriate circumstances, and
- e. use flight simulators and training devices as available and appropriate.

Explanation: Innovative, compact, and inexpensive technologies have greatly expanded the capabilities of spacecraft. This section encourages the use and promotion of such safety-enhancing technologies.

Sample Recommended Practices:

- When practicable, invest in new technologies that advance flight safety. Learn and understand the features, limitations, and proper use of such technologies.
- If practicable, use an electronic means to confirm identification of your landing runway and provide vertical guidance (e.g., monitor a precision approach).
- Consider keeping back-up and redundant communication/navigation devices accessible in flight, including extra batteries or a back-up power supply.
- Inspect and maintain avionics and flight instruments to keep them operational, current, and approved for the intended flight.
- Consider use of a personal locator beacon.
- Report inoperative navigation aids and areas of poor radio/signal coverage to the appropriate authority.
- Maintain basic flying and navigating skills to enhance safety in the event of failure or

absence of advanced instrument displays or automation.

- Consider the use of flight tracking or flight data monitoring technologies.
- Use flight simulators, training devices, or web-based tools as appropriate.
- Consider installing enhanced occupant restraints.
- Operate with an autopilot or a qualified second pilot if practicable when flying.
- Properly manage autoflight systems. Understand that programming avionics may cause distractions and that distractions may lead to errors, particularly during departure/arrival and other critical phases of flight.



ABBREVIATIONS

SD	Spaceworthiness Directive
AI	Attitude Indicator
AFSS	Automated Flight Service Station
AGL	Above Ground Level
STC	Space Traffic Control
CRM	Crew Resource Management
FAA	Federal Aviation Administration
FBO	Fixed Base Operator
ILS	Instrument Landing System
PTS	Practical Test Standards
SMS	Safety Management System
SRM	Single Pilot Resource Management
TFR	Temporary Flight Restriction


