

# *High-Risk Activities Safety Briefing*



# HIGH-RISK ACTIVITIES SAFETY BRIEFING

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## INTRODUCTION

- This guide is designed to help the Supervisor and First Echelon Commander to run a smooth High Risk Activities program. This guide provides the essential elements of a High Risk Activities program in a single source package. While not all inclusive this package addresses the primary High Risk Activities our personnel participate in.

This guide is divided into five general areas. They are:

- Introduction
- Overview
- High Risk Checklists
- High Risk Background Materials
- Management Tools

The introduction provides a basic over-view of the High Risk Activities program, and the responsibilities military members, supervisors and first echelon commanders have under this program. A direct paragraph reference is located in this section.

High Risk Checklists are provided to aid the supervisor or first echelon commander in ascertaining the degree of competency the military member has in the High Risk Activity they are planning. These checklists hit the key elements that personnel should be aware of prior to partaking in a High Risk Activity. The military member who plans on engaging in a High Risk Activity should be knowledgeable in these elements. Supervisors or first echelon commanders may preclude military members from engaging in High Risk Activities in which they appear to be inadequately trained or inexperienced. The supervisor or first echelon commander may also preclude military members from engaging in High Risk Activities if a threat to safety and the mission exists.

The High Risk Background Materials section provides supervisors or first echelon commanders in-depth information. This section has articles or key points papers with more in-depth materials for consideration than the checklist can provide.

Sample AETC Form 410, High Risk Activities Worksheet, section provides the supervisor or first echelon commander a sample of how to document the High Risk Activities training.

The sample high risk survey should be given to newly assigned military members. The completed report ensures that first echelon commander are aware of High Risk Activities newly assigned members are engaged in.

The sample High Risk Roster is provided as an example. This allows the first echelon commander to quickly ascertain the number of individuals involved in specific High Risk Activities. This "Excel" spread sheet has been forwarded to your unit safety representative for dissemination to all unit supervisors.

## OVERVIEW

- The definition of a High Risk Activity is any sport or activity in which a mishap could result in serious injury or death.

- AETC has designated the following activities as High Risk Activities: (Note: this is not an all encompassing list)

- Skydiving
- Hang Gliding
- Parasailing
- White Water Rafting
- Kayaking
- Flying Civilian Aircraft
- Bungee Jumping
- Scuba Diving
- Auto/Motorcycle Racing
- And any other similar activities

- Responsibilities:

-- Military members planning to participate in any High Risk Activity must inform their first echelon commander or immediate supervisor prior to performing the activity.

-- Military members are expected to exercise sound judgment and self-discipline in all activities and not put life or limb, or the performance of their Air Force duties in jeopardy.

-- Military members must complete an AETC Form 29B (Predeparture Safety Briefing) indicating their intentions to participate in a High Risk activity while on leave status.

-- Supervisors must ensure they are aware of all personnel under their supervision who participate in High Risk Activities.

-- Supervisors or first echelon commanders must discuss training, experience, and use of safety equipment, as well as, rules and precautions necessary for any subordinate to follow when participating in High-Risk Activities.

-- Supervisors or first echelon commanders must document this briefing preferably on an AETC Form 410 (High Risk Activities Worksheet)

--Supervisors or first echelon commanders must prohibit personnel who are inadequately trained or inexperienced and (or) a threat to safety and the mission exists, from participating in the activity *Note: The purpose of this briefing is not to discourage*

*members from participating in these activities but to ensure awareness of the hazards and of the potential for injury.*

- AETC guidance concerning High Risk Activities

-- AETC Sup 1 to AFI 91-202, paragraph 1.8.13.2 and 1.8.15

1.8.13 Bullet 6 (Added)(AETC) Discuss training, experience, use of safety equipment, rules, and precautions with personnel participating in high risk activities (such as flying civil aircraft, hang gliding, skydiving, parasailing, white water rafting, motorcycle and auto racing, scuba diving, bungee jumping and other similar activities). These preventative measures are not intended to prohibit personnel from participating in High Risk activities, but to ensure they are familiar with the hazards and injury potential of these activities take appropriate safety measures. If commanders determine these personnel are inadequately trained or inexperienced and (or) a threat to safety and the mission exists, they must prohibit these personnel from participating in the activity. However, the commander's role in safety does not replace the individual's responsibility. The individual must exercise sound judgment and self-discipline and not put life, limb, or performance of his or her Air Force duties in jeopardy. Documentation of the briefing is at the unit commander's discretion. AETC Form 410, **High Risk Activities Worksheet**, may be used.

1.8.15. Bullet 6. (Added)(AETC) (The following applies to military personnel only.) Participating in high risk sports and recreational activities such as flying civil aircraft, hang gliding, sky diving, parasailing, white water rafting, motorcycle and auto racing, scuba diving, bungee jumping, and other similar activities, will inform their first echelon commander or immediate supervisor of these activities. The first echelon commander will then discuss these activities with personnel engaging in such activities. (*Note:* The commander's role in safety does not replace the individual's responsibility. The individual must exercise sound judgment and self-discipline and not put life, limb, or the performance of his or her Air Force duties in jeopardy.)

# **HIGH-RISK CHECKLISTS**

**FLIGHT COMMANDER'S HIGH RISK BRIEFING CHECKLIST**  
**FOR**  
**ALL-TERRAIN VEHICLES**

1. How long have you been riding?
2. What type of ATV will you be riding? (3-wheeler, quad, or buggy)
3. How often do you ride?
4. Do you race?
5. What safety gear will you be wearing? (helmet, goggles, boots, long pants, long sleeve shirt, and proper reflective gear if riding at night)
6. Where will you be riding? Have you ever ridden this particular route before? How many times? What type of terrain encompasses this route? Are you experienced in this type of terrain?
7. Will you be doing any night riding? Is the route lit at night? When you ride at night, do you insure the headlight is working properly?
8. Is it considered safe and is it legal to ride in the areas you normally ride? Do you know if it is legal to ride an all-terrain vehicle?
9. Have you attended any rider safety courses? If yes, what courses and how long ago?
10. How often do you perform maintenance on the ATV?
11. Before riding, do you perform a road check of the vehicle? (tires, brakes, lights, cables, fuel lines, etc.)

**FLIGHT COMMANDER'S HIGH RISK BRIEFING CHECKLIST**  
**FOR**  
**AUTO RACING**

1. Have you ever raced automobiles before? Where? When? What type of race? (distance type race, stock car, drag)
2. Is the race you are participating in a Sports Car Club of America sanctioned event?
3. Prior to racing is your car inspected by the proper authority?
4. Are you currently a member of the SCCA or have you previously raced with the SCCA?
5. Have you familiarized yourself with the General Competition Rules (commonly referred to as the GCR) which provide the requirements placed on all competitors of the SCCA?
6. Do you have the required battery tie down installed in the vehicle you will be racing?
7. Is there a three point seat belt or harness in the car? Does the car have a roll bar?
8. Will you be wearing a DOT approved helmet while you are racing?
9. Will fire-resistant clothing be worn?
10. If you are racing a "prepared car" that is not street legal, how will that car be towed to the event?
11. Are you familiar with the track you will be racing on? (terrain, conditions)



**FLIGHT COMMANDER'S HIGH RISK BRIEFING CHECKLIST**  
**FOR**  
**BUNGEE JUMPING**

1. Have you ever bungee jumped before?
2. Is the company you will be jumping with or the “jump master” registered with the USBA (United States Bungee Association) thus ensuring certain rules and safety items are adhered to?
3. Are you familiar with the difference between Bungy (lower velocity, smoother ride) and Bungee (more freefall, higher G-load)?
4. Will you be jumping from a bridge or a crane with a “cage-type” platform?
5. If jumping from a crane, are you aware of the restrictions placed on the angle of the crane, the height of the cage and distance the cage should be below the crane so that you may recognize an improperly operated “crane-jump” business?
6. If the jump will be accomplished off of a car/pedestrian bridge, do you realize that there are only a few bridges in all of North America that have been approved for bungee jumping and that the organization operating off of a bridge is most likely doing so illegally?
7. Are you familiar with the wind restrictions associated with bungee jumping?
8. Will you be making an ankle jump, or will you be tied off at the waist?
9. If tied off at the waist, will the required “cradle-type” harness be used?

**FLIGHT COMMANDER'S HIGH RISK BRIEFING CHECKLIST**  
**FOR**  
**CIVIL HELICOPTER FLYING**

1. How long have you been flying helicopters?
2. How many hours do you have?
3. Do you own or rent the helicopter you fly?
4. When you fly, do you ensure that you are current in the helicopter, and that you have a current medical?
5. Are you thoroughly familiar with the helicopters you fly before you fly them alone?
6. If you rent, do you ensure the aircraft has an appropriate airworthiness certificate on board?
7. When you fly cross-country, do you take into consideration weather, destination surroundings, pressure altitude affects, etc.?
8. When you fly with passengers, do you comply with the FARs regarding proficiency? (takeoff & landing requirements)

**FLIGHT COMMANDER'S HIGH RISK BRIEFING CHECKLIST**  
**FOR**  
**CIVILIAN LIGHT AIRCRAFT FLIGHT**

1. Do you hold an FAA pilot license and current FAA medical?
2. Do you understand the flight requirements of FAR part 61 and part 91 as they apply to you?
3. Have you been checked out to fly your aircraft by a CFI who is experienced in that airplane in the phases of flight that you intend to participate, and do you know the aircraft's limitations? (examples: new aircraft, high performance aircraft or tailwheel aircraft checkout required by FAR part 61)
4. Do you receive recurrent training in your aircraft by a CFI? (biannual flight review is required)
5. What agency regulates civilian flying?
6. How many times have you flown in the area you're planning to fly in?
7. When planning a cross-country flight do you consider weight and balance, fuel consumption, landmarks and familiar/unfamiliar terrain, effects of density altitude, etc.
8. Does the aircraft have an airworthiness certificate and current annual inspection? Do you intend to do aerobatics? Do you have the proper checkout and waiver?
9. Do you plan to fly in formation? Do you understand that all formation flying must be briefed and agreed to by all pilots involved.
10. If you intend to fly in mountainous terrain or participate in aerobatics, have you had a checkout for this type of flight?
11. Remember: Never push weather to get back to duty on a certain day. There is nothing going on at work that requires you to do so.

**FLIGHT COMMANDER'S HIGH RISK BRIEFING CHECKLIST**  
**FOR**  
**DIRTBIKING/MX RACING**

1. What experience, if any, do you have on motorcycles?(Do not ride at a level beyond your abilities)
  - a. What type?
  - b. How long?
  - c. What kind of terrain?
2. What type of helmet and eye protection do you wear? (full face with goggles preferred)
3. What kind of safety equipment do you wear? (high ankle boots, leather gloves, long sleeve shirt, pants, pads)
4. Do you ride with a partner?
5. Do you carry a small tool kit when you ride?
6. Prior to riding what do you look for in your inspection of your bike? (Gas, Chain, Suspension).
7. Do you let someone know where you will be and how long you will be gone each time you ride?

**FLIGHT COMMANDER'S HIGH RISK BRIEFING CHECKLIST**  
**FOR**  
**HANG GLIDING**

1. How long have you been hang gliding?
2. How often do you hang glide?
3. What protective gear do you wear?(helmet, goggles, light jacket)
4. Does the glider conform with category one specifications.
5. Will you be using the “buddy system”?
6. Are you familiar with the area you intend to glide?
7. Are you familiar with the typical wind conditions of the location you plan to glide?
8. Do you Know the in-flight rules and the FAA suggestions on gliding?

**FLIGHT COMMANDER'S HIGH RISK BRIEFING CHECKLIST**  
**FOR**  
**HUNTING**

1. How long have you been hunting?
2. Are you familiar with the local area hunting rules, licensing requirements, and bag limits? If you intend to hunt in Texas, you must attend a hunter safety course before you can obtain a license.
3. What type of animals/birds do you hunt? Do you know what firearms are allowed for the type of animals/birds you are hunting?
4. Do you own your own rifles/shotguns? If so, how do you properly maintain them? If not, how do you know they're safe to use?
5. Do you load your own ammunition? If so, what precautions do you take to ensure the loading area is safe?
6. Where do you typically hunt? (private land, public land, own land)
7. Do you hunt in groups? If so, what is the typical size of the hunting party? If not, tell me when and where you are going.
8. If hunting waterfowl, is your boat (if used) in good condition? If hunting deer and using a tree stand, is it in good condition?
9. If you plan on hunting outside the local area, will you use a hunting guide? If not, how familiar are you with the hunting area? Do you know what the hunting rules are if hunting in another state?
10. Will you be using an aircraft to get into remote hunting sites? (Several mishaps have occurred when hunters overload their aircraft with big game)
11. Wear brightly colored clothing--especially if hunting in heavily wooded areas? Clothing should also be adequate for hunting environment. Do not carry loaded rifles/shotguns in the vehicle compartment. Carry a first aid kit.

**FLIGHT COMMANDER'S HIGH RISK BRIEFING CHECKLIST**  
**FOR**  
**MOUNTAIN CLIMBING/RAPPELLING**

1. Do you own, borrow or rent equipment? Do not borrow equipment from other than a professional school.
2. Is the equipment replaced on a timely basis. (Every 4 years)
3. Do you do a maintenance check of all equipment prior to each climb or rappel?
4. Have you accomplished formal training for climbing/rappelling? How much training and by whom?
5. What previous experience do you have in climbing or rappelling?
6. Where have you climbed previously? Where in the local area will you be climbing/rappelling (Red Rock Canyon for rappelling, Altus area for climbing, also a climbing wall and rappelling tower are available through the local Boy Scouts at Camp Williams)
7. How long has it been since you have been climbing or rappelling?
8. Is a log kept of usage of the climbing surface for normal deterioration of the rock and record of falls? (site management)
9. Will there be at least one other person climbing or rappelling with you?
10. Do you carry an adequately equipped first-aid kit?

**FLIGHT COMMANDER'S HIGH RISK BRIEFING CHECKLIST**  
**FOR**  
**PARASAILING**

1. Have you ever parasailed before? How many times?
2. Have you researched the reputation of the company you parasail with?
3. Is the operator of the towing boat licensed by the US Coast Guard?
4. Have you asked for the company's operating and inspection procedures for their equipment? (They should be inspecting ropes, parasails, and canopies every 250 tows.)
5. Each time you parasail, do you ask when the equipment in use was put into service? Do not use it if it has gone past its service life.
6. Each time you parasail, do you personally inspect your canopy (for tears), harnesses (to make sure all hooks and latches work), and rope and yoke (for proper operation)?
7. The company you sail with should replace ropes every 6-12 months and make sure that they are 1/2 inch tight twisted dacron rope with a minimum 3,500 lbs. tensile strength. The eye at the end of each rope should be 6-8 inches.
8. If the company does not issue head protection, life preservers, gloves, and lace-up boots do not fly with them.



**FLIGHT COMMANDER'S HIGH RISK BRIEFING CHECKLIST**  
**FOR**  
**RODEO/BULL-RIDING**

1. What events do you plan to enter?
2. What is your background/ training?
3. Is your equipment owned or borrowed?
4. Do you perform routine maintenance checks prior to the riding event to ensure the proper condition of the equipment?
5. Are you aware of the potential hazards for injury?
6. Is the sponsor of the event reputable (sanctioned by the PRCA or other professional rodeo association)?
7. Are you properly insured for this type of activity?

**Bucking Events**

1. Do you have a flak vest? Do you plan to wear a helmet?
2. Are your saddle, bareback rig, and/or bull rope in good working order?
3. Do you have a knowledgeable, experienced chute man?
4. Are there qualified bullfighters/pick-up men?

**Roping Events and Steer Wrestling**

1. Is your horse owned or borrowed? Is it properly trained?
2. Is your tack in good shape?
3. Do you have a knowledgeable, experienced haizier?

**FLIGHT COMMANDER'S HIGH RISK BRIEFING CHECKLIST**  
**FOR**  
**SCUBA DIVING**

1. How long have you been a certified diver and in what kinds of waters are you experienced? Or, are you diving with a certified diver experienced in the waters you will be diving in?
2. When diving do you:
  - a. Budget your dive time to ascend before your pressure gauge decreases to 500 pounds per sq. inch?
  - b. Test all equipment and mark dive area with a dive flag prior to entry?
  - c. Always have a dive partner and two regulators in case one fails during all dives?
  - d. Avoid decompression sickness by ascending at a rate of 1 foot per second?
6. Are you familiar with dangers in your dive zone (creatures, caverns, surges, etc.)?
7. If you are diving in an unfamiliar area, are you normally accompanied by a guide?
8. After a dive, do you wait 24 hours before flying?

**FLIGHT COMMANDER'S HIGH RISK BRIEFING CHECKLIST**  
**FOR**  
**SKYDIVING**

1. Do you understand the risks involved in the sport of skydiving ?
2. Did you receive your initial skydiving training at a USPA group member Skydiving Center? If not, where did you receive your training?
3. If you continue in the sport of skydiving, do you plan to join the United States Parachute Association (USPA)? (for liability reasons to protect yourself and others)
4. Do you know anyone in the sport already to give you advice? If not, we recommend you to contact a United States Parachute Association (USPA) group member Skydiving Center or local airport for advice. (USPA 703-836-3495)
5. Have you lowered the risks of skydiving by:
  - a. Receiving the proper training?
  - b. Ensuring equipment is in good condition (reserve canopy in date)?
  - c. Using common sense?
6. Each time you skydive, do you take into account your trip to and from the skydiving activities? (fatigue, road conditions, weather)
7. If your last jump was not very recent, do you plan to receive recurrence training?
8. Each time you skydive, are you sure that the equipment that you are using is compatible and within your experience limitations?
9. What do you look for prior to repacking your main canopy or downing? (stitching, connectors, rips/tears, lines, canopy, reserve canopy pins)
10. Do not drink 12 hours prior to any skydiving.

**FLIGHT COMMANDER'S HIGH RISK BRIEFING CHECKLIST**  
**FOR**  
**SOARING**

1. Are you certified to fly sailplanes and are you current? Or, are you flying with someone who is certified and current? (If second question is yes, go to question 8)
2. How current are you in sailplanes? ( hours/sorties in previous 3 months)
3. If necessary, are you going to take a refresher flight with a CFI?
4. Where do you plan to go soaring?
5. Are you familiar with the local type of soaring conditions?
6. Are you familiar with the local method of launching?
7. Do you plan on carrying passengers? If so, who are they? Have they ever flown a sailplane before?
8. Are you properly insured for flying activity?
9. Do you perform routine maintenance checks on the sailplane?
10. Do you have current charts?
11. Have you considered weight, balance, density altitude, and performance for this sailplane?
12. What day and what time of day are you planning to fly?
13. Do you have an emergency number on file with the airport?
14. Are you current in the type of sailplane you plan to fly and is it mechanically up-to-date?

**FLIGHT COMMANDER'S HIGH RISK BRIEFING CHECKLIST**  
**FOR**  
**WHITE WATER RAFTING/ACTIVITIES**

1. When rafting do you insure all individuals:
  - a. know how to swim?
  - b. have and plan to wear proper lifejackets?
  - c. have and plan to wear proper head protection?
2. What is the experience of the river guide/company you are rafting?
3. What is your experience level in rafting? How many times have you been rafting before?
4. What class of river have you rafted on? (Classes 1-5, 1=slow, 5=impassable)
5. Will there be EMT or medically qualified individuals in the group?
6. Does the river guide/company provide proper preventative training?
7. Is the river guide/company licensed, insured, and reputable?
8. Do you or anyone going rafting with you have any medical problems limiting heavy physical activity?
9. If you are going on an extended rafting trip, have you arranged to check in with park authorities along the route?

**FLIGHT COMMANDER'S HIGH RISK BRIEFING CHECKLIST**  
**FOR**  
**KAYAKING**

1. What is your experience level?
2. How many crafts are in your party?
3. Are you familiar with the stretch of water to be covered and the abilities and limitations of all members of the party?
4. Is all equipment sound and in good repair?
5. What type of equipment will you be using?
6. Do you have adequate rescue gear?
7. What type of training/experience have you had in rescue?
8. What are some of the hazards to be aware of before going kayaking?

# **HIGH-RISK BACKGROUND MATERIALS**

# ATV'S

Do not ride double; the unique handling characteristics of the ATV require that the operator shift body weight and position on the seat to steer and control the vehicle. Riders hamper the operator's ability to steer and control the ATV.

A hands-on training course, given by a competent instructor, is necessary for all ATV operators, who must be physically strong and emotionally mature. Inexperienced drivers, in their first month of using an ATV, have 13 times the average risk of injury.

Helmets, heavy gloves and boots should always be worn. Without the protection of a helmet, the risk of severe injury or death is twice as high.

Four-wheeled ATVs are more stable than three-wheel ones. The risk of accidents is nearly twice as high with a three-wheeled ATV. Fully suspended ATVs handle better than front-only or tire-only suspended ones.

Since ATVs are small and low to the ground, they are not as visible as larger vehicles. Use lights, reflectors, and highly visible flags, so the ATV is easier to be seen.

Never ride the ATV on public roads, or with alcohol or drugs in the bloodstream. In nearly 10 percent of all injuries, and in 30 percent of all fatal ATV accidents, alcohol use was a contributing factor.

Most experts recommend that a full-face helmet always be worn when riding an ATV, It should fit snugly and be securely fastened, and bear the American National Standards Institute label (ANSIz90.1 or equivalent).

Quality boots, or over-the-ankle work shoes with good heels, are a must. No one should be allowed to operate an ATV with anything less. Ideally, the soles and heels are made of slip-resistant materials, not leather or neoprene-type materials. While motorcycle or ATV-type boots are best, a good quality pair of over-the-ankle, tightly-laced work shoes are adequate.

Normally, long-sleeved shirts, full-length trousers and well-padded gloves are recommended. Never carry passengers.

Always keep your ATV under control. Slow down, whenever conditions demand it, such as on slippery, rough terrain, on slopes or near canals and ditch banks. Ride within your own limitations and those of your ATV. Do not overload the front and/or rear carriers, and keep the load balanced.

Driving after dark increases the risk of an accident. Even with lights many hazards cannot be seen. Control of the ATV on paved surfaces is more difficult.



# AUTO RACING

Auto racing is a highly regulated sport. Sanctioning bodies exist at all levels of competition to ensure fair play and safe racing conditions. Most racing events held inside the United States are sanctioned by a racing body. Each sanctioning body develops their own rules and guidelines specific to their event. Some of the major sanctioning bodies are:

ARCA - Automobile Racing Club of America (Oval track racing)  
ASA - American Speed Association (Primarily oval track racing)  
CART - Championship Auto Racing Teams (Indy car road course and oval track racing)  
DIRT - Drivers Independent Race Teams (Dirt track racing)  
IRL Indy Race League (Indy car road course and oval track racing)  
NASCAR - National Association of Stock Car Racing (Primarily oval track racing)  
NHRA - National Hot Rod Association (Drag racing)  
NMCA - National Muscle Car Association (Drag racing)  
SCCA - Sports Car Club's of America (Auto-cross, closed course sports car racing)  
USAC - United States Auto Club (Paved and dirt open wheeled racing i.e. sprint, midget modified and champ)  
WoO - World Of Outlaws (Primarily dirt oval open wheeled sprint style racing)

Most racing events in the driving area falls under the jurisdiction of one of the following national racing bodies: SCCA, NASCAR, NHRA, and NMCA. Two local bodies also sanction events as well; TVWDRA (Texas Volkswagen Drag Racing Association) and TIDA Texas International Drivers Association

Each racing sanctioning body has own stringent safety rules however, as a minimum the following safety items are required for competitive wheel to wheel racing. (This does not apply to Auto Cross)

## - Protective Gear

- Helmet in case of an accident, the helmet will absorb any shock delivered to the head
- Face shield or goggles to protect your eyes from glare
- Gloves made of nomex and covered with leather or other protective material
- Fire retardant race suit
- Fire retardant underwear preferably nomex
- Racing footwear and fire retardant socks
- Fire retardant head sock

## - Safety Equipment

- Roll Cage secured to frame or as part of the frame
- Fire suppression system
- Fuel Cell (a foam filled tank designed to prevent explosion in case of rupture)

- Five point body harness (a real seat belt)
- Racing seat

It is recommended that the driver complete a racing school prior to racing a vehicle. It is also recommended that the driver start at the lowest level of racing and progress upward from this point. (Most sanctioning bodies require demonstration of proficiency at each level prior to graduating to a faster car.)

# BUNGEE JUMPING

- Bungee jumping is a new sport and safety standards have not been set. It is not addressed in AFR 215-49. Therefore, bungee jumping is not sanctioned by the Air Force Morale, Welfare, and Recreation Safety Program.
- Widespread popularity has resulted in increasing numbers of deaths and injuries being reported.
  - Simple errors (i.e. overestimating bungee cord footage, equipment failure, broken cord) could mean the jumper's doom.
- In US, bungee jumps are made from several locations
  - Legal jumps can be made from bungee jumping towers, cranes and tethered hot-air balloons.
  - Unofficial and illegal jumps are made from bridges over river gorges, and sides of mountains and such popular places as the Golden Gate Bridge.
- To minimize the chance of injury, most legal sites have safety systems installed (i.e. air bags, harnesses). Some are regulated by the North American Bungee Association (NABA) which is a regulating body which sets safety guidelines and investigates bungee jumping operations in US.
- Some safety suggestions
  - Ensure that you meet the weight requirements. One standard being used is 2 1/2 times a person's body weight with a 240-lb maximum.
  - The waist harness, with an upper torso and lower torso fitting, should distribute the pull of the jump evenly over the entire body. Harnesses should be color-coded along with the appropriate bungee cord to insure the jumper's weight is matched with the bungee cord designed for their weight.
  - Air bags that are used as safety devices are the same used by fire departments and stunt men. An example is a 500 sq ft air bag rated for a 100 ft freefall.
  - Ensure that the staffing crew is cardiopulmonary resuscitation (CPR) certified with extensive classroom training on bungee jumping and at 15-20 hours of hands-on experience.

# HANG GLIDING

## - Protective gear

- A protective helmet, such as an Alpine climber's type, should be used. A hard hat should not be used since it has no chin strap and could be swept away during flight.
- Goggles are recommended, but not required. They are beneficial when landing in heavy brush. If you use goggles an all-transparent type should be used.
- A light jacket or long-sleeve shirt should be worn. In case of cold weather, a skin diver's wet suit may be used. Sturdy boots and gloves are also required safety items. You must ensure all garments fit tightly so that air drag will not impede your flight.

## - Glider

- The glider should conform to Category I specifications of the Hang Glider Manufacturers Association.
- After assembly at the site, walk around the structure and inspect every joint.
  - ensure all nuts are screwed on tight
  - secure all pin pins
  - ensure cables are not frayed
  - ensure all aluminum parts are not bent or cracked
  - ensure cloth is not torn
  - ensure wires are tight
  - ensure all flying surfaces are aligned
  - ensure material is not worn or out of shape
- Use the "buddy system" when strapping into the harness.
  - ensure all buckles, Velcro and seams are in good condition
  - fasten harness securely to kite
  - ensure balance is adjusted for the current pilot
- For fixed-wing gliders, the proper alignment of all surfaces is essential for safety. The pilot should sight along the centerline of the keel from the front of the plane to check for warped surfaces.

## - Wind conditions

- Check the wind conditions at the site. If you are unfamiliar with the area, place and observe the position of streamers on the branches along the hill.
- DO NOT FLY IN WINDS OVER 20 MPH. Ten mph is the ideal condition for flying.

## - Landing site

- Inspect site before flying to ensure all obstacles have been cleared
- Have someone standby at the site for assistance
- Pilot
  - Weight should be kept low
  - DO NOT FLY IF UNDER THE INFLUENCE OF ANY CHEMICAL SUBSTANCE
- In-flight rules
  - The nose should be kept level. Anything more than 30 degrees from normal flight is considered dangerous.
  - Courtesy
    - Lower of two kites has right of way
    - Pilot being overtaken has right of way
    - When overtaking, ensure that downwash does not affect the lower kite's flight path
    - Keep to the right when encountering opposing traffic. If you are next to a ridge, stay as close to the ridge as safely possible. Never force another pilot closer to a ridge than he/she already is.
    - First pilot into a thermal determines direction of rotation to avoid head-on collision
- There are several situations that are unsafe and should be avoided.
  - Do not have the glider towed by any sort of motor vehicle.
  - Do not fly over water.
  - Do not fly near buildings, high-tension wires, water towers, or other manmade obstacles.
- The FAA does not have a published guideline concerning hang gliding, but offers a few suggestions.
  - Limit altitude to 500 ft above general terrain
  - Do not fly within controlled airspace or within five miles of the boundary of an uncontrolled airport
  - Do not fly within 100 ft radius of buildings, populated areas or assemblages of persons
  - Stay clear of clouds

# MOUNTAIN CLIMBING

- Altitude is defined as follows
  - High (8000-12000 feet [2438-3658 meters])
  - Very High (12000-18000 ft [3658-5487 meters])
  - Extremely High (18000+ ft [5500+ meters])
  
- Altitude illnesses are caused by the reduced amount of oxygen available at higher altitudes. Since the amount of oxygen required for activity is the same, the body must adjust to having less oxygen. In order to properly oxygenate the body, your breathing rate (even while at rest) has to increase. In addition, high altitude and lower air pressure causes fluid to leak from the capillaries which can cause fluid build-up in both the lungs and the brain. Continuing to higher altitudes without proper acclimatization can lead to potentially serious, even life-threatening illnesses.
  
- Acclimatization
  - The major cause of altitude illnesses is going too high too fast. Given time, your body can adapt to the decrease in oxygen molecules at a specific altitude. This process is known as acclimatization and generally takes 1-3 days at that altitude.
  - A number of changes take place in the body to allow it to operate with decreased oxygen
    - The depth of respiration increases
    - Pressure in pulmonary arteries is increased, “forcing” blood into portions of the lung which are normally not used during sea level breathing
    - The body produces more red blood cells to carry oxygen
    - The body produces more of a particular enzyme that facilitates the release of oxygen from hemoglobin to the body tissues
  
- Prevention of Altitude Illnesses
  - Prevention of altitude illnesses falls into the categories of proper acclimatization and preventive medications
  - A few guidelines for proper acclimatization are as follows
    - Don’t fly or drive to high altitude. Start below 10000 feet (3048 meters) and walk up. If you do fly or drive, do not over-exert yourself or move higher for the first 24 hours.
    - If you go above 10000 feet, only increase your altitude by 1000 feet (305 meters) per day and for every 3000 feet (915 meters) of elevation gained, take a rest day.
    - “Climb high and sleep low”. You can climb more than 1000 feet in a day as long as you come back down and sleep at a lower altitude.
    - If you begin to show symptoms of moderate altitude illness, don’t go higher until symptoms decrease
    - If symptoms increase, go down

- Keep in mind that different people will acclimatize at different rates. Make sure all of your party is properly acclimatized before going higher.
- Stay properly hydrated
- Don't over-exert yourself when you first get up to altitude. Light activity during the day is better than sleeping because respiration decreases during sleep, exacerbating the symptoms
- Avoid tobacco, alcohol and other depressant drugs including barbiturates, tranquilizers and sleeping pills. These depressants further decrease the respiratory drive during sleep resulting in a worsening of the symptoms
- Eat a high carbohydrate diet while at altitude
- The acclimatization process is inhibited by dehydration, over-exertion and alcohol and other depressant drugs
- Preventive medications
  - Diamox (Acetazolamide) allows you to breathe faster so that you metabolize more oxygen, thereby minimizing the symptoms caused by poor oxygenation. This is especially helpful at night when respiratory drive is decreased
  - Dexamethaxone (a steroid) is a prescription drug that decreases brain and other swelling reversing the effects of Acute Mountain Sickness (AMS). It may be combined with Diamox

# RODEO

- Use common Sense

- Stay away from areas that are off-limits. A few examples of off-limits areas are: livestock pens that are being used to hold animals that are less than friendly; high vehicle traffic areas and areas where livestock and/or people are moving through at high rates of speed.

- Be aware of your surroundings at all times. Many times people are caught off guard when angry animals decide to use an unsuspecting person as a play toy. Stay alert!

- Use proper safety equipment

- Many kinds of safety equipment are available to rodeo participants. The Kevlar vest is very popular and provides excellent protection without compromising mobility. Many injuries have been prevented by the use of Kevlar vests. Helmets are available for use during rodeo events but at the present time need to be refined to permit better peripheral vision that is needed in many situations. There are also neck and knee pads available that offer excellent protection to those areas.

- Bullfighters are not safety equipment but do protect bullriders from angry animals. When you dismount be sure to get away quickly. The bullfighters will do their best to protect you but they can only do so much.

- For male rodeo participants the use of an athletic supporter is highly recommended.

- Preparation is paramount

- Rodeo participants need to be in excellent physical shape. Exercise frequently and be sure to thoroughly warm up and stretch all muscles prior to your event.

- Good mental preparation is very important. Do not go to a rodeo if you are having problems with finances, family or work. You need to have a clear head and be able to concentrate on what you are doing.

- Do not consume alcoholic beverages within eight hours of any rodeo event. Alcohol impairs your reflexes and judgment along with many other mental functions.

- Make sure your rodeo equipment is in excellent shape. A thorough inspection of all equipment before each rodeo is a must. After all, rodeo rules state that you cannot compete if you have broken equipment.



- Get proper training

-- There are many “rodeo schools” out there that are staffed by professionals with many years of experience. Although some of these schools can be expensive, the quality of the education outweighs the cost.

--Get plenty of experience before your first rodeo. There are many rodeo stock contractors and ranchers who have animals that young rodeo participants can use to train on. It is not wise to go out and jump on the first animal you see.

**-- Rodeo is dangerous only if you make it dangerous!--**

# SCUBA

Because of lack of frequency of diving by most sports divers, it is important that any certified divers be screened and evaluated by a certified diving instructor before participating in SCUBA dives. The skills to be evaluated include the following:

- Use of buoyancy control device
- Giant stride entry
- Removal and replacement of weight belt
- Neutral buoyancy
- Snorkel to regulator exchange
- Removal and replacement of scuba unit under the water
- Face mask removal, replacement, and clearing
- Emergency swimming ascent
- Alternate air source ascent
- Pre-dive safety drill
- Five-point ascent and descent
- Deepwater exits
- Simulation of surface procedures

## **Asthma/Reactive Airway Disease as Related to Scuba Activities**

- Persons with symptomatic or active asthma/RAD (commonly known as asthma or bronchial asthma) should not be allowed to scuba dive. This would include, at a minimum, anyone who:
  - Is currently taking medication for asthma/RAD
  - 2. Has received treatment for bronchospasm in the past five years
  - 3. Has exercised induced bronchospasm
  - 4. Has cold-induced bronchospasm
- Persons with asymptomatic asthma/RAD who wish to scuba dive should be referred to a pulmonary medical specialist who is also knowledgeable about diving medicine for a complete medical examination, including exercise and bronchial challenge testing. Any determination of fitness for diving must be made on the basis of such examination and specific testing.

## **Water Clarity**

- Swimming activity in turbid water should be limited to surface swimming. Turbid water exists when a 12-inch white disk at the depth of 3 feet is not visible from above the surface of the water. Underwater swimming, headfirst entry (except for racing dives), and board diving are not recommended in turbid water.
- Snorkeling and scuba skills should be taught and practiced only in clear water. Clear water exists when a 12-inch disk at a depth of 8 feet is visible from above the surface of the water.

**Certification**

- Any military member possessing, displaying, or using scuba should be currently certified by the National Association of Underwater Instructors (NAUI) or the Professional Association of Diving Instructors (PADI). These two agencies are recognized nation wide for scuba training and instruction. Alternatively, if PADI or NAUI training and instruction is not available, certification may be accepted from other agencies that comply with Recreational Scuba Training Council (RSTC) guidelines.
- Student dives must be under the supervision of a currently certified NAUI or PADI instructor.

# SKYDIVING

- Protective Gear
  - Helmet - in case of an emergency or hard landing where a PLF is to be executed, the helmet will absorb any shock delivered to the head.
  - Goggles
    - In freefall, a person will fall at an average terminal velocity of 120 ft/s.
    - Goggles will protect your eyes from the high winds so that you can use your visual references.
  - Gloves are recommended but not necessary for freefall.
  - Proper footwear is necessary to protect your body, in particular your joints, from the shock of landing. Though flaring upon landing eases the shock, the impact can cause damage if experienced over a long period of time.
- Avoiding canopy collisions
  - If possible, don't pull chute.
    - Keep flying to avoid collision
    - If already pulled, fly hard until line stretch
  - Develop and practice a maneuver (i.e. dive-turn, barrel roll, loop) that will fly you around an obstacle
  - If you should get hit by a deploying pilot chute or bag, quickly knock it to one side as you fall off toward the other side
  - Use risers to avoid traffic by steering canopy to the right to avoid a head-on collision
  - A hook knife is useful
    - Cut away from an entanglement
    - Should be accessible to either hand and deployed quickly.
    - Communicate with your tangle-partner and check canopies and altitude
  - Plan for any emergencies on the ground and practice before boarding the plane
- Malfunctions
  - Hard pull
    - If the closing pin is stuck in the closing loop, the ripcord will not pull easily when initiated, resulting in a hard pull
    - When a hard pull is encountered, the jumper should immediately pull the reserve ripcord
  - Floater
    - For ripcord systems, a floater malfunction occurs when the ripcord handle comes free of the Velcro support
    - Ripcord floaters can be found by visually following the ripcord housing and grasping the ripcord cable with both hands and then pulling
    - Floaters on pull-out systems may be found quickly following the container pack with your hand towards the pin
    - The direction a jumper pulls on a handle can be critically important in throw-out systems. Pilot chutes can be easily trapped inside pouches by an incorrect pull direction.

- If a handle cannot be found in two tries, it is suggested to immediately deploy the reserve parachute.
- Bag lock
  - In the case of a bag lock, the bag does not open to release the canopy.
  - When faced with bag lock, the reserve should be deployed.
- Totals
  - Can be packed in by misrouting the short bridle line around the base of the pilot chute.
  - A proper pin check, given before donning the gear, can easily detect this malfunction.
  - When a total is experienced, the reserve ripcord should be pulled.
- Streamer
  - A streamer occurs when the canopy fails to inflate.
  - The jumper must release and deploy the reserve.
- Horseshoe
  - A horseshoe malfunction occurs when the pilot chute's bridle line, upon deployment gets caught or wrapped around one of the jumpers appendages. The rest of the chute deploys but the canopy fails to inflate.
  - The jumper must try to break away from the tangle so that the canopy will inflate or at least free it from his/her body so that the jumper has a streamer that he/she can cut away from and release the reserve.
- Premature openings
  - If the container opens inadvertently in the ripcord or pull-out systems, then a normal deployment is most likely to occur because the pilot chute should catch air and inflate first.
  - In a throw-out system, the bag and canopy can emerge from the container and flap above a jumper's back while the pilot chute remains stowed inside its pouch. This situation is almost a horseshoe malfunction.
- Pilot Chute-In-Tow
  - A pilot chute in tow malfunction occurs when the pilot chute cannot pull the curved closing pin from the closing loop.
  - The pilot chute may be caught in the burble formed directly above the jumper's back. By changing the air flow over the back, the pilot chute may be able to catch enough wind to deploy the rest of the canopy.
  - If this does not work or at low altitude, pull the reserve immediately.
- After initial shock, the canopy should be checked to ensure the jumper has a good canopy.
  - Twisted risers can be fixed by grabbing the risers and pulling them apart by moving the body in a bicycling motion.
  - Broken lines are not necessarily a total malfunction. The rest of the continuity check should be conducted, if the canopy can be handled. If not, the jumper should cut away and release the reserve.
  - Broken steering cables can be compensated for by simply using the risers instead. Stow the good steering cable if the other is broken and use both risers.

--- End cell closure can be resolved by attempting to inflate them again. This is done by pulling both steering lines simultaneously to the stall point and holding until the end cells are inflated again. The jumper must be careful not to stall the whole canopy while attempting this maneuver.

- Rest

-- Before any jump is attempted, the jumper should adhere to all standards applying to crew rest similar to those who fly aircraft.

--- 12 hours bottle-to-throttle (i.e. no drinking twelve hours before activity)

--- eight hours uninterrupted rest time (i.e. not necessarily sleeping, just “opportunity” to rest)

# WHITE WATER RAFTING/ACTIVITIES

Most white water accidents are caused by the lack of discipline. Almost every accidental drowning can be attributed to the violation of one or more of the following key points.

## **Buddy System**

- All activities afloat should adhere to the principles of the buddy system. The buddy system assures that for every person involved in an aquatics activity, at least one other person is always aware of his or her situation and prepared to lend assistance immediately when needed.

## **Skill Proficiency**

- All persons participating in the activity must be trained and practiced in craft handling skills, safety, and emergency procedures.

## **Planning**

- Float Plan. Know exactly where the unit will put in, where the unit will pull out, and precisely what course will be followed. Determine all stopover points in advance. Estimate travel time with ample margins to avoid traveling under time pressures. Obtain accurate and current maps and information on the waterway to be traveled, and discuss the course with others who have made the trip under similar seasonal conditions.
- Local Rules. Determine which state and local laws or regulations are applicable. If private property is to be used or crossed, obtain written permission from the owners. All such rules must be strictly observed.
- Notification. The float plan should be filed with a responsible person. For activities using canoes on running water, the float plan should be filed with the local council service center. Notify appropriate authorities, such as Coast Guard, state police, or park personnel, when their jurisdiction is involved. When the you return from your trip, inform the persons given the float plan that you have returned safely.
- Weather. Check the weather forecast just before setting out, know and understand the seasonal weather pattern for the region, and keep an alert "weather eye." Imminent rough weather should bring all ashore immediately.
- Contingencies. Planning must anticipate possible emergencies or other circumstances that could force a change in the original plan. Identify and consider all such circumstances in advance so that appropriate contingency plans can be developed.

## **Equipment**

- All equipment must be suited to the craft, to the water conditions, and to the individual; must be in good repair; and must satisfy all state and U.S. Coast Guard requirements. To the extent possible, carry spare equipment. On long trips or when spare equipment is not available, carry repair materials. Have appropriate rescue equipment available for immediate use.

### **Discipline**

- All participants should know, understand, and respect the rules and procedures for safe unit activity afloat. When people know and understand the reason for the rules, they will observe them. Good rules do not interfere with fun. Rules for safety, plus common sense and good judgment, keep the fun from being interrupted by tragedy.

### **Personal Flotation Devices (PFD's)**

- Properly fitted U.S. Coast Guard-approved personal flotation devices (PFDs) should be worn by all persons engaged in activity on the open water. Type II and III PFDs are recommended. Ski belts are not acceptable. Ensure you learn which type is appropriate for each specific circumstance and how to wear and check for proper fit.

### **Whitewater Safety Code**

- Be a competent swimmer.
- Wear a PFD.
- Keep your canoe under control, always!
- Be aware of river hazards and avoid them.
- Boating alone is not recommended; preferred minimum is three to a craft.
- Be suitably equipped.
  - Wear shoes (tennis shoes or special canoeing shoes are best).
  - Tie on your glasses.
  - Carry knife and waterproof matches (also compass and map).
  - Don't wear bulky clothing that will waterlog.
  - Wear a crash helmet where upsets are likely.
  - Carry an extra paddle and canoe-repair tape.
  - Open canoes should have bow and stern lines (painters) securely attached. Use at least 15 feet of 1/4 or 3/8 inch rope. Secure them to the canoe so they are readily available but will not entangle feet and legs in case of a spill.
- If you fall in swim on your back in fast water, keeping your feet and legs downstream and high. Keep watching ahead.
- When you start to spill, keep the upstream gunwale high.



- If you do spill, hang on to your canoe and get to the upstream end. (Note: If you are heading into rough rapids and quick rescue is not expected, or if water is numbing cold, then swim for shore or a rock where you can climb out of the water.)
- When you are with a group:
  - Organize the group to even out canoeing ability.
  - Keep the group compact for mutual support.
  - Don't crowd rapids! Let each canoe complete the run before the next canoe enters.
  - Each canoe is responsible for the canoe immediately behind it.

# KAYAKING

## - Group responsibilities

- Be familiar with the stretch of water to be covered and the abilities and limitations of all members of the party.
- Ensure all equipment is in good repair and file a daily trip schedule with the proper authorities on extended expeditions.

## - Equipment

- The kayak should be structurally sound, watertight and have grabloops and flotation at both ends. It should have a firm-fitting but easily detachable cover. If inflatable, it should have multiple air chambers. The pilot should be able to exit the craft quickly and easily. A breakaway cockpit is desirable.

- Lifejackets should be worn at all times while kayaking. They should be in good condition and fit snugly to the torso.

- Helmets are required for whitewater paddling and recommended for pounding surf.

- Dry suits or wet suits should be worn when combined air and water temperature is below 100 degrees Fahrenheit (38 degrees Celsius) and a complete change of dry clothes in a waterproof package should be carried in the kayak

- Paddles should be structurally sound and, on isolated runs, a spare should be carried in the kayak.

### -- Rescue gear

- Besides the kayak, which in itself can be a useful piece of rescue gear, a throw line rescue bag or 70-foot length of 1/2 inch twisted polypropylene rope without bag should be carried.

- Two spring-loaded carabiners are useful for rescues and handy for clipping rescue bags and loose items into the boat. And as always, a first-aid kit and matches stashed in a waterproof container

## -Skills

- Self-rescue is the quickest and best safety measure. Therefore, the boater should be a good swimmer and comfortable in the water.

- Train for capsizing and practice exiting from the boat and swimming quickly to the bow or stern. For wet exits in rapids, swim or float on your back with your feet forward and high. Save equipment if possible, but release if necessary. Once close to shore, flip over onto stomach and swim aggressively to the bank.

- If about to broach a rock while paddling, lean into it and pull or claw around it.
- Hazards
  - Do not go kayaking in a flood
  - Beware of hidden dams
  - Beware of floating debris and ice in cold weather
  - Watch water level in case of dam release or snow melt
  - Beware of underwater debris
- “An ounce of prevention is worth a pound of cure”. Always use best judgment in deciding whether your boating ability is suited for the task at hand.

# **MANAGEMENT TOOLS**