

PDA Field Safety Manual
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A. Introduction

The ability of a PDA field team to accomplish its objectives depends on the reliability of the staff members to establish and maintain a safe work environment both in the village and on the work site. Maintaining a safe workplace is a straightforward matter that only depends on stopping, thinking, observing and preventing accidents, **STOP** accidents for short. Safety rests fundamentally on the behavior of each person. Your behavior as a staff member or long term volunteer reflects respect for, and adherence to a safe work environment. It establishes the expectations of all members of the village. Each staff person must consider their own safety practices as the desired example for all. Poor safety practices lead to injury. Each accident carries the possibility of debilitating or even fatal injury.

An effective safety program begins with the conclusion that all accidents in the workplace are avoidable.

This manual comprises two parts, safety instructions for the long- and short-term staff (including outside contractors), and a briefing for the volunteers at the work-site. The purpose of the manual is to establish the philosophy and requirements for a safe, accident-free working environment. Every unsafe action cannot be listed; however, understanding how to avoid certain safety hazards prepares a person to look at each new situation with an open mind for hazard.

B. Expectations of The Long and Short Term Staff

The PDA staff establishes a safe work place in an explicit and implicit way. The implicit way is your behavior and adherence to ALL safety requirements ALL the time. Your example sets the bar. If you cut a corner you can expect the inexperienced to follow your example. The explicit way that you provide guidance to volunteers and contractors is to teach each volunteer group our specific safety guidelines and act to stop all observed unsafe actions. Contractors are expected to observe the same safety rules we expect of village personnel and it is our responsibility to ensure they do this.

Each village shall keep in an easily found public location the telephone numbers of emergency first responders, the local fire department and police department.

Each day you will encounter numerous activities and subject volunteers to situations wherein such activities may arise. The following is a *limited* (non-inclusive) list of important activities where injury can occur:

- Heat-related illness
- Lifting dead weight
- Changing propane canisters
- Operating compressors for gas-powered tools
- Use of pneumatically powered tools such as nailers
- Use of power tools with protective devices
- Managing and cooking the kitchen gas stove
- Mowing grass with push or motorized mower
- Cutting grass with weed-whacker
- Filling equipment and containers with liquid petroleum fuel and storage
- Starting and maintaining camp fires
- Parking a car or truck
- Towing trailers
- Eliminating ants, bees and wasps
- Inattentive driving
- Horseplay

1. Heat related illness

Every PDA staff person and long-term volunteer is responsible to know and recognize such illness and know the immediate medical steps to be followed. Staff are also responsible to brief volunteers on heat-related illness.

Prolonged or intense exposure to hot temperatures can cause heat-related illnesses, such as heat cramps, heat exhaustion, and heat stroke (also known as sun stroke). As the body works to cool itself under extreme or prolonged heat, blood rushes to the surface of the skin. As a result, less blood reaches the brain, muscles, and other organs. This can interfere with both physical strength and mental capacity, leading, in some cases, to serious danger.

By reducing excessive exposure to high temperatures and taking other precautionary steps, most heat-related illnesses can be avoided. Those who work in hot or humid environments - such as manufacturing plants, bakeries, or construction sites during summer months - are most at risk. However, even long, hot afternoons at the beach can pose problems if warning signs are ignored.

With prompt treatment, most people recover completely from heat illness. However, heat stroke can be deadly if not properly managed.

In the Gulf Coast it is not unusual to see temperature over 80-90°F combined with high humidity. This causes a heat index that can be as high as 110°F. The potential for a heat-related illness is real.

What Causes It?

Any strenuous activity can lead to heat-related illness. Heat illness can strike virtually anyone. But chronic alcoholics, the elderly and obese persons are at greater risk, as are individuals taking certain drugs, such as antihistamines, antipsychotic medications, and cocaine. High humidity also increases the risk of heat illness because it interferes with evaporation of sweat - the body's way of cooling itself.

Heat exhaustion, heat cramps and heat stroke all occur when the body cannot cool itself adequately. But each is slightly different.

Heat exhaustion occurs when the body loses large amounts of water and salt through excessive sweating, particularly through hard physical labor or exercise. This loss of essential fluids can disturb circulation and interfere with brain function. Individuals who have heart problems or are on low-sodium diets may be particularly susceptible to heat exhaustion.

As in heat exhaustion, heat cramps can strike when the body loses excessive amounts of fluids and salt. This deficiency, accompanied by the loss of other essential nutrients such as potassium and magnesium, typically occurs during heavy exertion.

The most serious of the heat-related illnesses, heat stroke occurs when the body suffers from long, intense exposure to heat and loses its ability to cool itself. In prolonged, extreme heat, the part of the brain that normally regulates body temperature malfunctions. This decreases the body's ability to sweat and, therefore, cool down. Those who have certain medical conditions - such as scleroderma or cystic fibrosis that decrease the body's ability to sweat may be at greater risk of developing heat stroke.

What Are the Symptoms?

The primary symptoms of heat cramps are:

- Severe, sometimes disabling, cramps that typically begin suddenly in the hands, calves or feet.
- Hard, tense muscles.

Heat exhaustion symptoms include:

- Fatigue
- Nausea
- Headaches
- Excessive thirst
- Muscle aches and cramps
- Weakness
- Confusion or anxiety
- Drenching sweats, often accompanied by cold, clammy skin.
- Slowed or weakened heartbeat.
- Dizziness
- Fainting
- Agitation

Heat exhaustion requires immediate attention but is not usually life-threatening.

Heat stroke symptoms include:

- Nausea and vomiting.
 - Headache.
 - Dizziness or vertigo.
 - Fatigue.
 - Hot, flushed, dry skin.
 - Rapid heart rate.
 - Decreased sweating.
 - Shortness of breath.
 - Decreased urination.
 - Blood in urine or stool.
 - Increased body temperature (104 to 106 degrees Fahrenheit).
 - Confusion, delirium or loss of consciousness.
 - Convulsions.

Heat stroke can occur suddenly, without any symptoms of heat exhaustion. If a person is experiencing symptoms of heat exhaustion or heat stroke, **OBTAIN MEDICAL CARE IMMEDIATELY. Any delay could be fatal.**

You should seek emergency medical care for anyone who has been in the heat and who has the following symptoms:

- Confusion, anxiety or loss of consciousness.
- Very rapid or dramatically slowed heartbeat.
- Rapid rise in body temperature that reaches 104 to 106 degrees Fahrenheit.
- Either drenching sweats accompanied by cold, clammy skin (which may indicate heat exhaustion); or a marked decrease in sweating accompanied by hot, flushed, dry skin (which may indicate heat stroke).
- Convulsions.

Any other heat-related symptom that is not alleviated by moving to a shady or air-conditioned area and administering fluids and salts.

2. Lifting dead weight

Each member of the village (and HQ) staff shall read the excerpt of the OSHA Training Manual of lifting dead weight in the Appendix 1 of this manual, and be familiar with the remaining contents of the OSHA Training Manual that describe other work-related activities. The following paragraphs establish our implementation of this manual for lifting.

The ability to lift an object depends on how far it is held from the body, how easy it is to grip with a closed hand, its elevation, how far it is moved, how much the body twists(rotates) to move it, and how frequently the exertion occurs. As a specific rule, the Safe Lifting Weight depends on all these factors and actually can be calculated for each situation using the formula in the Appendix. The formula is very useful for a typical workplace where a limited specific set of actions are required, for example, loading or unloading a truck of finished goods and lifting and repairing equipment.

In our case we may encounter a broader set of circumstances where lifting is required. This use of this rule can be time consuming and unwieldy in such cases; therefore, we use the general rule established by OSHA/NIOSH that says the maximum weight a person in good physical condition should lift by oneself under ideal conditions when the object is initially at waist height is 51 pounds.

However, the formula for SLW should be used in specific situations where weight greater than 51 pounds is lifted once or repetitively. **This SLW is reduced substantially when lifting objects from ground level, for repetitious lifting, for unusual lifting situations where the lifting person has to contort or conform the body by leaning, twisting or stretching, and for persons of small stature. Even though some very well conditioned people are able to lift more dead weight; we expect all staff involved in lifting of an object of 51 pounds or more to involve at least two persons. When involved in repetitious lifting objects of lesser weight from floor level the staff member shall assess the job first, and use two persons, either by operating alternatively allowing each person to have a period of rest every hour, or using a two person lift.**

3. Changing propane canisters

Compressed propane canisters are potential explosion hazards because they contain a flammable substance and because they contain a pressurized liquid. Propane tanks for gas grills and trailer supply can be particularly dangerous because improper connection can lead to gas leaks creating fire and explosion hazard. Each tank and grill comes with specific instructions for safe use. Any staff member who changes such tanks or expects or requests volunteers to do so must read and understand these instructions. If a staff member has any question as to the safe method to change tanks, or if the instructions to change tanks is not present, the staff member shall find an experienced staff member who can provide safety instructions for change.

If a staff member expects or requests long-term volunteers or visiting work volunteers to change a propane tank the staff member shall explicitly review the safe practice with the volunteer and NEVER assume the volunteer is experienced enough to do this without such instruction. **Any time sulfurous or rotten egg odor is detected a leak shall be suspected and the tank and connection shall be evaluated immediately. If this occurs other than when the tank is initially connected, a potential fire hazard shall be considered possible. All open flames shall be extinguished and the Logistics Manager or Construction Manager contacted for instruction. Such events require a formal safety incident report.**

Propane containers hold compressed gas or liquid under significant internal pressure. Pressurized vessels are susceptible to catastrophic failure at dents and pitting caused by exterior rust, especially if roughly handled, for example by dropping them or transporting them unconstrained in the bed of a pickup truck or trunk of a car. Propane canisters shall be properly secured in the vehicle and when attached to the device using the gas to prevent unconstrained motion.

Filled propane tanks for the grills and empty tanks not in use shall be stored in the storage location for liquid fuels and retrieved as needed. Empty tanks should be refilled or exchanged on a schedule approved by the Logistics Manager.

4. Operating compressors for gas-powered tools

All containers holding pressurized gas are hazardous, even if the gas is not flammable. Compressor tanks used for powering pneumatic tools are designed with substantial safety margin and have pop-off valves. These design elements provide safety only when the tanks are managed using the safety instructions that are delivered with the equipment. Even so, such safety factors designed into the compressor tank should not lead the staff member to consider them to be safe vessels.

Most compressor units sold for pneumatic tools compress ambient air to a pressure of up to ~135 pounds per square inch. The physics of such a compression process also delivers the moisture content of the air into the vessel. The moisture will condense to a liquid in the vessel; and each compression cycle introduces more water. These tanks are normally made from mild steel that is susceptible to rusting(corrosion) by the water. (This can be observed by opening the air valve on the bottom of the tank and observing the color of water expelled from the tank.)

Daily each tank in use should be depressurized by turning off the pump and opening the drain valve to allow all condensed water to be blown out of the tank. The tank should be resting in a horizontal, level position.

Weekly, the relief valve should be opened and the compressor turned on and allowed to run for one hour to dry out the tank. This practice reduces the chance of internal pitting.

Do not assume the presence of a regulator will always prevent over-pressurization. If a compressor is observed to run continuously and no leaky air line is found, the compressor should be retired from use until the cause for continuous running is determined.

The work-site manager shall perform these daily and weekly drying operations on all compressed gas tanks in the village tool crib.

5. Use of pneumatically powered tools such as nailers

Pneumatically powered tools are labor-saving devices but they cannot be treated in the manner of hand tools such as hammers. Pneumatic nailers are the equivalent of gas powered firearms. The nails are shot from the gun at high enough velocity to drive the nail into wood or metal. These nails shot even from significant distance easily penetrate bone, such as the human skull, soft tissue such as the skin of the hand, foot, eyes and abdomen.



- They shall not be used by anyone who has not been given specific training for use or whose existing qualifications have not been ascertained.

6. Use of power tools with protective devices

- It is extremely easy to injury oneself when using power tools such as contractor saws and table saws. When these tools are used, the STOP principle is very important. The floor of the area where these tools are used should be inspected and cleared to remove any tripping hazards.
- These tools have blade-protective devices that prevent cutting injury to the body. The existing blade shields on such saws should always be kept in good working order and used when working.
- Table saws have guides to control the motion of material as it is fed into the blade. A table saw should not be used for free-hand cutting.
- Table saws also require the material be moved entirely through the blade. The blade can kickback the material being cut if the material binds or tilts to engage the blade causing injury to the hand or other body part. Feed of material into the blade should be done using a “push stick” that keeps the hands away from the blade.
- Electrically powered tools with cords should always be unplugged when not in use, even if idle for only a few minutes. Always inspect the cord for fraying or bare wires, and if so designed, the presence of a grounded prong on the plug. Do not use tools with cords that are frayed, have bare wire or are missing the grounding plug. Ensure during use that the power cord is not in apposition that would allow it to be cut by the saw blade.

7. Managing and cooking the kitchen gas stove

The cooking gas stove requires attention primarily by the Village Manager and secondarily by every staff member. Injuries and incidents that can occur with improper operation of the stove are burns to the body, asphyxiation and explosion or fire. Such conditions are exacerbated when the kitchen is an enclosed space with the door closed. Events that can lead to hazardous conditions are primarily two:

- Loss of ignition of a lit pilot light
- Burners or oven being left on.

The Village Manager shall inspect the kitchen stove each day after meals to ensure pilot lights are burning and all burners are turned off. The Village Manager shall instruct volunteer staff using the stove to ensure pilot lights are burning, all burners turned off after use and immediately to contact the Village Manager, or any long term staff member in

8. Mowing grass with push or motorized mower

Normally the Village Manager and Work-Site Manager are responsible for mowing and trimming the grass in the village. On occasion any staff member may need to do this.

The mower, whether push mower or riding mower is dangerous equipment. The blade spins at considerable velocity and will propel struck objects (stones, wood, etc.) at considerable velocity. Such objects can injury persons adjacent to the mower. The spinning blade will cause severe injury if it hits a body part. In addition, the mower can disturb stinging insects such as fire ants, wasps, hornets and yellow jackets that can cause serious injury to the operator or persons in the vicinity. **It**

is the obligation of the operator to protect people in the vicinity. Therefore, operators of the mower shall:

- Never assume an area is clear because it was clear when last mowed. Walk and inspect the area to be mowed to locate and remove, or mark, objects that may be struck to cause injury to operator or passersby, specifically stones, tree limbs or other solid objects, stinging insect nests, holes or depressions holding water. Such objects will be removed, remedied or marked so they may be avoided during mowing.
- Use protective equipment including work shoes, safety glasses and hearing protection.
- Not operate mowers in the vicinity of other people.
- Ensure the area is clear of persons before beginning work.
- Stop mowing if a person enters the area being mowed and request and ensure that the person leave the area before beginning again.
- Ensure precautions are taken to avoid fire when fueling or refueling the mower. The exhaust manifold and muffler are hot enough to pose potential ignition sources. When fuel is added, only specifically approved containers for gasoline having filling spouts will be used to fill the tank.

The operation of push and riding mowers requires proper techniques:

- a. When cutting grass on sloping ground using a push mower, the mower shall not be pushed up or down the slope because any slipping of the operator or loss of control of the mower could allow a foot or other part to slip into the blade or if an object is hit, subject the operator to injury from the struck object. The mower shall be operated by :
 - Pushing along a line or contour perpendicular to the direction of slope.
 - When the slope exceeds 15 degrees or a rise of 3 inches per foot the grass should be cut using a weed whacker.
- b. When cutting grass using the riding mower the operator shall use the same technique **WITH CAREFUL ATTENTION TO THIS EXCEPTION:**
 - Operating a riding mower along the contour of a steep slope carries the risk of toppling. This can be a most dangerous accident since it exposures the entire body of the operator to possible injury by the blade and to crushing injury. Riding mowers should not be used along the contour or on a slope of more than 15 degrees, or a rise of 3 inches per foot. Within this limit on rise, the mower can be operated by moving up or down the direction of slope. If the length of the slope is the length of the mower, or less, the mower can use operated in the direction of the slope up to a rise of 30 degrees (5 inches rise per foot of length.)
 - On a higher slope a push mower shall be used as described or use a weed whacker.

The logistics Manager or designee shall ensure all proper maintenance is done on mowers, including having a sharp blade.

9. Cutting grass with weed-whacker

There are two types of weed whackers, the wheeled gasoline-powered machine and the hand-held electric or two-cycle gasoline powered machine. Many of the requirements on operators of mowers apply to these devices:

- Use protective equipment including work shoes, long pants, safety glasses and hearing protection.
- Shall not be operated in the vicinity of other people.
- Ensure the area is clear of persons before beginning work.
- Shall stop mowing if a person enters the area being mowed and request and ensure that the person(s) leave the area before beginning again.
- Shall walk and inspect the area to be mowed to locate objects that may be struck to cause injury to operator or passersby, moist specifically stinging insect nests, holes or depressions holding water. Such objects will be removed, remedied or marked so they may be avoided during mowing.
- Because operation involves standing and walking, vigilance for the presence of venomous snakes is required.
- Shall follow the fueling procedure described for mowers.

10. Filling, transporting and storing gasoline for mowers and weed whackers.

Gasoline is poisonous and extremely flammable therefore the following mandatory requirements shall always be followed:

- Gasoline shall be placed only in approved plastic or metal containers with positive locked, closed caps.
- At the gasoline station, the automobile engine shall be turned off before filling the container.
- Cigarette smoking or open flames are expressly forbidden during filling, transporting, storing fuel and while operating any gasoline-powered machine.
- Gasoline containers shall not be transported inside a vehicle.
- Gasoline containers shall be transported by pickup truck or trailer and shall be secured against uncontrolled movement.
- Gasoline containers shall be stored in the shed designated by the Logistics Manager for such storage.

11. Starting and maintaining camp fires

Camp fires can be effective focal points for group activity in the village and at the beach. Camp fires also require attention to location, surrounding conditions and any local permitting requirements, that is, local laws and air pollution requirements, and local climatic conditions that determine the safety and advisability of open fires.

Work-site Manager and Village Manager are the primary persons responsible for enforcing this requirement with volunteer groups in the village and for determining if local laws, codes or air pollution requirements prevent starting fires or require permits. The Village Manager shall obtain any required permits beforehand.

- a. **Only certain combustible materials should be burned.** The following list is an example of approved and prohibited materials.
- Clean and dry dead tree limbs and split firewood are most desirable.
 - Never burn firewood unless it has been inspected and found free of poison ivy/poison oak because burning wood with these vines on it can cause severe injury if the smoke is inhaled or comes in contact with skin, eyes and mucous membranes.
 - Untreated lumber scrap is also suitable.
 - Pressure treated lumber and plywood shall be never be used in camp fires because they contain potentially hazardous chemicals.
 - Newsprint should not be used.
 - Construction materials from tear-downs and gutting projects shall never be used.
- b. **Starting the fire**
- A PDA staff person shall start fires and ensure only approved materials are used.
 - Fires can be started by holding a single match to the bottom of a small stack of kindling graded smallest diameter to larger diameter top to bottom.
 - Fires can be started using charcoal lighter fluid applied to similar stacks of kindling if local codes and laws allow its use; however the liquid shall be applied, the container closed and removed at least ten yards from the location of the proposed fire before approaching the fire site to ignite the fluid.
 - Fires are NEVER to be started using gasoline.
- c. **Activities around fires**
- No one shall play with the fire by inserting or withdrawing burning material.
 - No one shall engage in "horseplay" around a fire; that is, running around a fire, or otherwise engaging in activity that distracts attention from the present hazard of an open fire.
- d. **Extinguishing fires**
- A fire shall never be left unattended. Either stay at the fire until it is burned out, or extinguish it with water and spread the extinguished coals.

12. Transporting Volunteers in Vehicles and Parking a Car or Truck

1. The only personnel who are authorized transport volunteers in PDA vehicles are:
 - Village Coordinator
 - Work-site Manager
 - Village Manager
 - Logistics Manager
 - Construction Manager
 - Finance Manager
2. No person shall be transported in the bed of a pickup truck.
3. Seatbelts shall always be used when operating an automobile vehicle.
4. When an automobile is parked, the automatic transmission shall be put into PARK and the parking(emergency) brake set. Manual transmissions can be left in neutral or placed in a low gear and the parking(emergency) brake set.
5. When parked on a sloping street the wheels shall be turned into the curb.
6. Operators shall never drive a vehicle into a flooded roadway or flooded open ground.

7. Other PC(USA) staff or volunteers such as members of the National Response Team (NRT) may drive village vehicles (If Risk Management approves their driving the vehicle) but they may not transport volunteers.

13. Towing trailers

The Logistics Manager maintains the complete safety practices for towing but certain requirements are repeated here for emphasis. Appendix 3 provides basic guidance.

- No one shall tow a trailer or connect a trailer to the hitch of a vehicle who has not had prior training in safe towing by the Logistics Manager, or is certified by the Logistics Manager.
- A trailer shall be affixed to a hitch only if the trailer has a positive locking mechanism to hold trailer to the hitch.
- The proper function of all operating lights shall be verified before towing a trailer.
- A trailer shall not be used unless all operating lights are functioning.
- A trailer will not be towed unless the safety chains are connected in the prescribed manner described in the Appendix 3.
- Only PDA staff and long term volunteers shall tow trailers.

14. Eliminating ants, bees and wasps

In the Gulf Coast area one may encounter fire ants, honey bees, wasps, yellow jackets and hornets. Bee stings can cause a severe allergic reaction that can be life-threatening. The sensitivity to a severe reaction tends to increase after repeated stings. If a staff person has shown any reaction to a sting, that person should avoid any involvement in eliminating an infestation. Fire aid for bee stings can be the use of topical antihistamine cream (Benedryl). **If a person is stung and shows signs of reaction such as rapid swelling or difficulty breathing it should be considered an emergency. Immediate help by emergency medical professionals should be sought.**

1. Fire ants. Fire ants are common and noted by visible ant hills. When the hill is disturbed the ants swarm and bite. The bites cause considerable localized pain and can become infected. Ant hills should be avoided. The Village Manager shall bait the mounds call a pest control company to treat hills. The Village Manager shall inspect the village grounds on a weekly basis to ensure fire ants are controlled.
2. Yellow jackets are wasps that normally build nests in decaying logs, stumps or in holes in the ground. It is an aggressive wasp. Because of this nesting tendency it is possible to disturb nests when cutting grass. The Village Managers should look for signs of yellow jackets by walking the grounds before cutting grass. Removal of nests should be left to a professional pest control.
3. All wasps are very active in warm weather. They build nests on leaves in shrubbery, under eaves of buildings and in most any place that offers shelter from rain and the elements. Wasps are daytime insects. They are very aggressive if their nests are disturbed or threatened. Normally the wasps' aggressive tendency increases as the size of the nest increases. When a nest is identified it should be avoided and the area cordoned off.

Wasps are best treated in the evening because they typically return to the nest and are inactive. Nests can be easily treated in the evening with pressurized sprays that have a range of as much as twenty feet. Nevertheless, no one should attempt to eliminate a nest if there is doubt of success or if the person has exhibited a reaction to bee sting.

4. Hornets are a type of wasp that build ellipsoidal, or football shaped nests that hang from tree limbs, or building structures. Hornets are very aggressive. Do not disturb the nest. Allow a trained professional to remove it.

15. Driving Vehicles

The use of seat belts while driving is a requirement of almost every state and is required of every staff member or volunteer driving PDA vehicles or personal vehicles on PDA business on PDA business.

Aggressive or hostile driving behavior is also not permitted when driving PDA vehicles or personal vehicles on PDA business.

Driving in Rain

DO NOT drive through water where you cannot see the roadway underneath and always slow down to a reasonable speed. Hydroplaning of your car occurs when the combination of depth of water and speed is too high. One inch of running water displaces 1500 pounds and 4-6 inches of running water will displace your vehicle. Even a small amount of water can break the contact of wheel and pavement when the speed is over 40-50 mph.

16. Horseplay and Planned Recreational Activity

Horseplay refers to activity such as hazing, practical jokes, pushing, shoving or throwing objects at another person. Horseplay is strictly forbidden on work sites and in the villages because it is highly distracting and can cause .any kind of accident.

Formal planned recreational game activities at the village are different from "horseplay." It is the responsibility of the village manager to ensure the grounds where games are played is free from objects (glass, construction material, etc.) and other elements of the terrain (holes, stinging insect nests, etc.).

17. Gutting and teardown of houses

The work site manager shall be familiar with the procedures described in the next section on gutting and teardown. The work site manager shall inspect the site and determine that the house is ready for volunteers to enter and begin work. The work site manager shall be familiar with the guidance in Appendix 2 – Demolition.

18. Evacuation plan

In the event of a required evacuation due to a tropical storm/Hurricane all PDA staff and volunteers will follow the Evacuation Plan set forth in the staff manuals. Evacuation cannot be treated as a one-time, extraordinary occurrence. The evacuation plan will contain prescribed inspection and maintenance plans for recreational vehicles and trucks. A preparation drill for evacuation will be held in each village in the month prior to the official beginning of hurricane season (June 1 to Nov 30.) The Evacuation Plan is a separate document.

Volunteers - SAFETY IN THE WORKPLACE

Ministry to the homeowners is as important as repairing their home—listen and care! This section of the document provides both general guidance and required practices for volunteers in the PDA-connected work place. They also are practices you should carry home.

1. Safety Precautions

- Caution is the name of the game.
- Primary goal: Stay Safe! No injuries!
- Never put your hands or feet where you can't see—spiders, roaches, rats, nails.
- Clear spider webs with a broom.
- Treat any injury immediately.
- Wash out.
- Use antiseptic and cover.
- Call 911 and then call Worksite Assignment Manager.
- Be aware of your body: respiration, heat, perspiration – know the signs of heat illness.
- Take a break.
- Be aware of surroundings and people, stay safe and together.

A residential or commercial construction site is any location wherein one or more persons are engaged in activity to repair, build or maintain the structure in suitable conditions for occupation. The working environment of all construction sites is inherently hazardous and holds the potential for serious injury. The purpose of good safety practices is to minimize the likelihood that a worker will be injured on the construction site.

A construction site may contain any or all of the following present:

- mechanical devices
- sharp objects
- electrical hazards
- natural gas hazard
- mold and mildew health hazards
- falling debris
- insects, animals, reptiles that may have poisonous or irritating bites or stings.
- Trips, and falls
- Exposure to unhealthy environments that may carry the potential for bacterial infections.
- Chemical hazards

Good safety practices involve any or all of the following:

- protective clothing,
- hard hats
- protective shoes (safety shoes)
- gloves
- safety glasses
- respirators or face masks

2. Inoculations and Illnesses

It is a good practice for everyone to keep up with the inoculation schedule for tetanus as recommended by your personal physician. In some cases, people also desire to get Hepatitis A and/or inoculations. No one with respiratory, heart, diabetes, immune system problems, or connective tissue injury such as rotator cuff tear should engage in strenuous physical activity without prior approval by your personal physician.

3. Safety equipment

Personal items

When you are working with rotating equipment do not wear items such as necklaces, loose or baggy clothes or rings on fingers, ears or other exposed body parts as they may become trapped in the rotating equipment and lead to personal injury.

Protective clothing

Shoes

Nothing is as unpleasant as stepping on a board with a nail in it or a heavy object falling on your toe. You may find yourself rushing to the emergency room for a tetanus shot, cast for a broken bone or a painful infection. You should wear a good quality work boot with a steel shank, preferably one with steel, or reinforced toe protection that is certified for the workplace. Many brands are available at stores such as JC Penny's, Sears and shoe stores. Some moderate cost brands are Big Mac and Caterpillar, but many others are available. Open toes shoes or sandals are expressly forbidden on work assignments.

Safety glasses

Your eyes are irreplaceable. Dirt, debris and flying objects can cause serious damage. Always use good judgment and wear safety glasses with side shields.

Respirators

Many activities in worksites generate dust. For example, sanding wood or drywall can generate very fine particulate that has great potential to cause long term lung injury. Mold in houses exposed to water damage can cause very difficult respiratory infections that require a long regime of therapy. M95 masks are required for mold situations. You should always use a dust mask that fits securely to your face when sanding, grinding or sawing materials.

Hands and fingers

Unless you are working with rotating equipment such as (but not limited to) table saws, drill presses or lathes, wear a good protective leather or fabric glove. You will have less blisters, less splinters and your hands will look better.

Gloves are a serious safety hazard around rotating equipment. If the glove becomes caught by the rotating piece it will pull your hand into the machinery.

Do not wear rings on your fingers when working around rotating equipment such as (but not limited to) table saws, drill presses or lathes. A wedding band can cut off a finger.

Head protection

If you are working on a site where overhead work is occurring, wear a hard hat. You have only one brain, protect it.

If you are working with paint or drywall you may want to wear a painter's hat or ball cap to keep paint and mud out of your hair.

Skin protection

Spring through fall in the Gulf Coast usually presents a high Sun Index. You can get severe sunburn in a short time. Use sunscreen if working out doors or consider long sleeves if you are sun-sensitive. Severe sunburn in your youth will haunt your later years. Wear a full broad-brimmed hat, not just a ball hat to protect your ears, neck and face. Short pants are really comfortable but in the work place you risk leg abrasions, sun burn and insect bites. Comfortable long pants really are recommended. A scarf or neckerchief provides good protection for the nape of your neck (if no rotating machinery is in use).

Physical condition

For much of the year it is hot and humid in the Gulf Coast. Heat prostration while working is always a real possibility if you do not follow some very simple guidelines. Although the weather may feel "ok" on arrival at the work site; once you start working the same conditions may impose the potential for heat-related problems. Drink plenty of water and electrolyte replacement during strenuous activity. Always take breaks as frequently as every thirty minutes to one hour. If you feel light-headed, distressed, dizzy or stop sweating STOP WORK and see your local team leader immediately.

3. Special Activities – Gutting and Teardown

Some construction activities require specific guidance. The most common one you may find is house stripping (gutting) or demolition. Stripping and tearing down a house entails removing as little as the lower 48 inches of drywall to as much as all drywall, ceiling insulation, roofing materials, wiring and sheathing, leaving the house stripped down to its rafters and joists. Demolition is the total removal of a house.

The following guidance is offered in two parts. The first part is for the construction site supervisor or construction supervisor; and the second part is for the people doing the work. The people doing the work should be aware of the actions expected of the work site manager or construction supervisor.

Utilities

Before any work is done to strip or demolish a house, the work site supervisor should ensure all utilities (gas, electricity and water) are shut off at the meter. This means the gas line should be shut and preferably locked out by the gas company and the electric meter removed from the service panel. The water line should be shut off at the water meter. Volunteers and neighbors are subject to severe hazard if this is not done.

Potential outcomes are:

- Electrocutation
- House fire
- Extensive water damage

Asbestos

Asbestos was a common building material. Asbestos tile was used for flooring and asbestos siding was used on many homes of the 1950's era. It was used as vent pipes, and as an insulation wrap on HVAC ducts and water lines. There are very specific guidelines and regulatory requirements for removing asbestos. Asbestos is very hazardous when it exists as fine air-borne particulate. No materials composed of asbestos, for example, tile, shingles and insulation, should be removed by volunteers. All removal activity on these materials should conform to local and environmental regulations and be done by trained personnel. Any loose and powdery insulation on pipes should be suspected to be asbestos.

4. SAMPLE SAFETY ORIENTATION FOR GUTTING OF RESIDENTIAL STRUCTURE

The Worksite Assignment Manager has inspected the house, but conditions change.

First entry by Team Leader- be certain electric power, gas and water are off.

Anyone can STOP the job if a danger is observed. Each person is responsible for everyone's safety.

What to wear:

- Long pants
- Long sleeved shirts
- Hat or scarf plus hard hat when needed
- Work gloves
- Eye goggles
- M95 masks

What to take:

- First Aid kit
- WATER!
- Lunch
- Tools and equipment

MAKE SURE ALL NAILS ARE FACING DOWN

DO NOT PLACE ITEMS OR EQUIPMENT OVER YOUR HEAD

Help the homeowner and ask what they want done:

1. Review all items with owner for value or interest
2. Create a SAFE AREA in the house for personal items you find
3. Advise owner of any termite damage noted
4. Assist the owner in securing the home

What not to remove:

1. Do not remove electrical, plumbing or HVAC materials.
2. Do not remove ceramic flooring or wall tile if you are sure it is on a concrete base.
3. Do not move vehicles or large equipment
4. Do not cut or remove large trees or limbs

5. STEPS IN GUTTING A HOUSE

1. Team leader enters first.
2. Open all doors & windows to ventilate.
3. Clear entries and setup ramps if needed.
4. Haul out household debris first.
5. Work from entry inward.
6. Remove floor coverings.
7. Remove was drywall, paneling, nails, cabinets, fixtures, insulation & any trim that is holding drywall.
8. Do not put trim boards down—have someone take them outside immediately.
9. Remove ceiling drywall, insulation, nails & personal items in attic.
10. Broom clean all surfaces.
11. Clear out all out-buildings and garages.
12. Place trash at street from curb to sidewalk, separate for pick up as follows;
 - Household chemicals and hazardous materials.
 - Household furnishings and materials.
 - Construction debris.
 - Household appliances.

Appendix 1. - Safe Lifting Weights (excerpt from OSHA Training Manual, http://www.osha.gov/dts/osta/otm/otm_vii/otm_vii_1.html)

Back disorders can develop gradually as a result of microtrauma brought about by repetitive activity over time or can be the product of a single traumatic event. Because of the slow and progressive onset of this internal injury, the condition is often ignored until the symptoms become acute, often resulting in disabling injury. Acute back injuries can be the immediate result of improper lifting techniques and/or lifting loads that are too heavy for the back to support. While the acute injury may seem to be caused by a single well-defined incident, the real cause is often a combined interaction of the observed stressor coupled with years of weakening of the musculoskeletal support mechanism by repetitive micro-trauma. Injuries can arise in muscle, ligament, vertebrae, and discs, either singly or in combination.

FACTORS ASSOCIATED WITH BACK DISORDERS. Back disorders result from exceeding the capability of the muscles, tendons, discs, or the cumulative effect of several contributors:

- Reaching while lifting.
- Poor posture--how one sits or stands.
- Stressful living and working activities--staying in one position for too long.
- Bad body mechanics--how one lifts, pushes, pulls, or carries objects.
- Poor physical condition-losing the strength and endurance to perform physical tasks without strain.

- Poor design of job or work station. Repetitive lifting of awkward items, equipment, or (in health-care facilities) patients.
- Twisting while lifting.
- Bending while lifting.
- Maintaining bent postures.
- Heavy lifting.
- Fatigue.
- Poor footing such as slippery floors, or constrained posture.
- Lifting with forceful movement.
- Vibration, such as with lift truck drivers, delivery drivers, etc.

MANUAL MATERIALS HANDLING. Manual materials handling is the principal source of compensable injuries in the American work force, and four out of five of these injuries will affect the lower back.

Manual Handling Tasks.

- a) Material handling tasks should be designed to minimize the weight, range of motion, and frequency of the activity.
- b) Work methods and stations should be designed to minimize the distance between the person and the object being handled.
- c) Platforms and conveyors should be built at about waist height to minimize awkward postures. Conveyors or carts should be used for horizontal motion whenever possible. Reduce the size or weight of the object(s) lifted.
- d) High-strength push-pull requirements are undesirable, but pushing is better than pulling. Material handling equipment should be easy to move, with handles that can be easily grasped in an upright posture.

- e) Workbench or workstation configurations can force people to bend over. Corrections should emphasize adjustments necessary for the employee to remain in a relaxed upright stance or fully supported, seated posture. Bending the upper body and spine to reach into a bin or container is highly undesirable. The bins should be elevated, tilted or equipped with collapsible sides to improve access.
- f) Repetitive or sustained twisting, stretching, or leaning to one side are undesirable. Corrections could include repositioning bins and moving employees closer to parts and conveyors.
- g) Store heavy objects at waist level.
- h) Provide lift-assist devices, and lift tables.

CONTROLS AND WORK PRACTICES

Engineering controls are preferred.

Worker training and education:

- Training should include general principles of ergonomics, recognition of hazards and injuries, procedures for reporting hazardous conditions, and methods and procedures for early reporting of injuries. Additionally, job specific training should be given on safe work practices, hazards, and controls.
- Strength and fitness training can reduce compensation costs.
- Rotating of employees, providing a short break every hour, or using a two-person lift may be helpful.
- Rotation is not simply a different job, but must be a job that utilizes a completely different muscle group from the ones that have been over-exerted.
- OSHA calculated Recommended Lifting Weights (RLW) depend on type of object, how easy it is to hold, its distance from the body and the duration. Recommended Lifting Weight can be calculated using the equation in the Appendix.

Lifting Weight Calculations.

The revised lifting equation for calculating the Recommended Weight Limit (RWL) is based on a multiplicative model that provides a weighting for each of six variables:

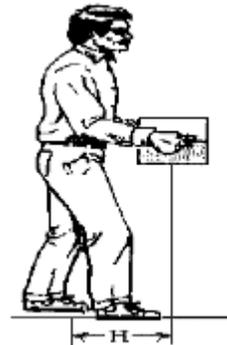
$$RWL = LC \times HM \times VM \times DM \times AM \times FM \times CM$$

where:

LC = Load Constant (*51 pounds*)

HM = Horizontal Multiplier ($10/H$)

**FIGURE VII:1-1.
HORIZONTAL
MEASUREMENT.**



Horizontal location of the hands (H): The horizontal location of the hands at both the start (origin) and end (destination) of the lift must be measured. The horizontal location is measured as the distance from the mid-point between the employee's ankles to a point projected on the floor directly below the mid-point of the hands grasping the object (the middle knuckle can be used to define the mid-point). The horizontal distance should be measured when the object is lifted (when the object leaves the surface).

$$VM = \text{Vertical Multiplier } (1 - (0.0075|V-30|))$$

Vertical location of the hands (V): The vertical location is measured from the floor to the vertical mid-point between the two hands (the middle knuckle can be used to define the mid-point).

$$DM = \text{Distance Multiplier } (0.82 + (1.8 / D))$$

Travel Distance of the load (D): The total vertical travel distance of the load during the lift is determined by subtracting the vertical location of the hands (V) at the start of the lift from the vertical location of the hands (V) at the end of the lift. For lowering, the total vertical travel distance of the load is determined by subtracting the vertical location of the hands (V) at the end of the lower from the vertical location of the hands (V) at the start of the lower.

$$AM = \text{Asymmetric Multiplier } (1 - (0.0032A))$$

Asymmetry Angle(A): The angular measure of the perpendicular line that intersects the horizontal line connecting the mid-point of the shoulders and the perpendicular line that intersects the horizontal line connecting the outer mid-point of the hips.

$$FM = \text{Frequency Multiplier (See Frequency Table Below (Table VII:1-1))}$$

Lifting Frequency (F): The average lifting frequency rate, expressed in terms of lifts per minute, must be determined. The frequency rate can be determined by observing a typical 15 minute work period, and documenting the number of lifts performed during this time frame. The number of lifts observed is divided by 15 to determine the average lifts per minute. Duration is measured using the following categories:

Short (Less than one hour); **Moderate** (1 to 2 hours); **Long** (2 to 8 hours).

**FIGURE VII:1-2.
MEASURE OF
ASYMETRY ANGLE A.**



TABLE VII:1-1. FREQUENCY MULTIPLIER TABLE (FM)						
Frequency Lifts/min (F) ‡	Work Duration					
	< 1 Hour		> 1 but < 2 Hours		> 2 but < 8 Hours	
	V < 30 †	V > 30	V < 30	V > 30	V < 30	V > 30
< 0.2	1.00	1.00	.95	.95	.85	.85
0.5	.97	.97	.92	.92	.81	.81
1	.94	.94	.88	.88	.75	.75
2	.91	.91	.84	.84	.65	.65
3	.88	.88	.79	.79	.55	.55
4	.84	.84	.72	.72	.45	.45
5	.80	.80	.60	.60	.35	.35
6	.75	.75	.50	.50	.27	.27
7	.70	.70	.42	.42	.22	.22
8	.60	.60	.35	.35	.18	.18
9	.52	.52	.30	.30	.00	.15
10	.45	.45	.26	.26	.00	.13
11	.41	.41	.00	.23	.00	.00
12	.37	.37	.00	.21	.00	.00
13	.00	.34	.00	.00	.00	.00
14	.00	.31	.00	.00	.00	.00
15	.00	.28	.00	.00	.00	.00
> 15	.00	.00	.00	.00	.00	.00

† Values of V are in inches.

‡ For lifting less frequently than once per 5 minutes, set F = 2 lifts/minute.

CM = Coupling Multiplier (**See Coupling Table Below (Table VII:1-2)**)

Object coupling (C): The classification of the quality of the hand-to-object coupling (rated as **Good, Fair, or Poor**).

TABLE VII:1-2. COUPLING TABLE		
GOOD	FAIR	POOR
CM = 1.00	V < 30" then CM = 0.95	CM = 0.90
	V > or = to 30" then CM = 1.00	
1. For containers of optimal design, such as some boxes, crates, etc., a "Good" hand-to-object coupling would be defined as handles or hand-hold cut-outs of optimal design.	1. For containers of optimal design, a "Fair" hand-to-object coupling would be defined as handles or hand-hold cut-outs of less than optimal design.	1. Containers of less than optimal design or loose parts or irregular objects that are bulky or hard to handle.
2. For loose parts or irregular objects, which are not usually containerized, such as castings, stock, supply materials, etc., a "Good" hand-to-object coupling would be defined as a comfortable grip in which the hand can be easily wrapped around the object.	2. For containers of optimal design with no handles or hand-hold cut-outs or for loose parts or irregular objects, a "Fair" hand-to-object coupling is defined as a grip in which the hand can be flexed about 90 degrees.	2. Lifting non-rigid bags (i.e., bags that sag in the middle).

Help using the lifting formula is available through the Directorate of Technical Support.

Appendix 2 - Demolition

I. PREPARATORY OPERATIONS.

Before the start of every demolition job, the demolition contractor should take a number of steps to safeguard the health and safety of workers at the job site. These preparatory operations involve the overall planning of the demolition job, including the methods to be used to bring the structure down, the equipment necessary to do the job, and the measures to be taken to perform the work safely. Planning for a demolition job is as important as actually doing the work. Therefore, all planning work should be performed by a competent person experienced in all phases of the demolition work to be performed.

The American National Standards Institute (ANSI) in its ANSI A10.6-1983 - *Safety Requirements For Demolition Operations* states:

"No employee shall be permitted in any area that can be adversely affected when demolition operations are being performed. Only those employees necessary for the performance of the operations shall be permitted in these areas."

A. ENGINEERING SURVEY.

1. Prior to starting all demolition operations, OSHA Standard [1926.850\(a\)](#) requires that an engineering survey of the structure must be conducted by a competent person. The purpose of this survey is to determine the condition of the framing, floors, and walls so that measures can be taken, if necessary, to prevent the premature collapse of any portion of the structure. When indicated as advisable, any adjacent structure(s) or improvements should also be similarly checked. The demolition contractor must maintain a written copy of this survey. Photographing existing damage in neighboring structures is also advisable.
2. The engineering survey provides the demolition contractor with the opportunity to evaluate the job in its entirety. The contractor should plan for the wrecking of the structure, the equipment to do the work, manpower requirements, and the protection of the public. The safety of all workers on the job site should be a prime consideration. During the preparation of the engineering survey, the contractor should plan for potential hazards such as fires, cave-ins, and injuries.
3. If the structure to be demolished has been damaged by fire, flood, explosion, or some other cause, appropriate measures, including bracing and shoring of walls and floors, shall be taken to protect workers and any adjacent structures. It shall also be determined if any type of hazardous chemicals, gases, explosives, flammable material, or similar dangerous substances have been used or stored on the site. If the nature of a substance cannot be easily determined, samples should be taken and analyzed by a qualified person prior to demolition.
4. During the planning stage of the job, all safety equipment needs should be determined. The required number and type of respirators, lifelines, warning signs, safety nets, special face and eye protection, hearing protection, and other worker protection devices outlined in this manual should be determined during the preparation of the engineering survey. A comprehensive plan is necessary for any confined space entry.

B. UTILITY LOCATION.

1. One of the most important elements of the pre-job planning is the location of all utility services. All electric, gas, water, steam, sewer, and other services lines should be shut off, capped, or otherwise controlled, at or outside the building before demolition work is started. In each case, any utility company that is involved should be notified in advance, and its approval or services, if necessary, shall be obtained.
2. If it is necessary to maintain any power, water, or other utilities during demolition, such lines shall be temporarily relocated as necessary and/or protected. The location of all overhead power sources should also be determined, as they can prove especially hazardous during any machine demolition. All workers should be informed of the location of any existing or relocated utility service.

C. MEDICAL SERVICES AND FIRST AID.

1. Prior to starting work, provisions should be made for prompt medical attention in case of serious injury. The nearest hospital, infirmary, clinic, or physician shall be located as part of the engineering survey. The job supervisor should be provided with instructions for the most direct route to these facilities. Proper equipment for prompt transportation of an injured worker, as well as a communication system to contact any necessary ambulance service, must be available at the job site. The telephone numbers of the hospitals, physicians, or ambulances shall be conspicuously posted.
2. In the absence of an infirmary, clinic, hospital, or physician that is reasonably accessible in terms of time and distance to the work site, a person who has a valid certificate in first aid training from the U.S. Bureau of Mines, the American Red Cross, or equivalent training should be available at the work site to render first aid.
3. A properly stocked first aid kit as determined by an occupational physician, must be available at the job site. The first aid kit should contain approved supplies in a weatherproof container with individual sealed packages for each type of item. It should also include rubber gloves to prevent the transfer of infectious diseases. Provisions should also be made to provide for quick drenching or flushing of the eyes should any person be working around corrosive materials. Eye flushing must be done with water containing no additives. The contents of the kit shall be checked before being sent out on each job and at least weekly to ensure the expended items are replaced.
4. **POLICE AND FIRE CONTACT.** The telephone numbers of the local police, ambulance, and fire departments should be available at each job site. This information can prove useful to the job supervisor in the event of any traffic problems, such as the movement of equipment to the job, uncontrolled fires, or other police/fire matters. The police number may also be used to report any vandalism, unlawful entry to the job site, or accidents requiring police assistance.

D. FIRE PREVENTION AND PROTECTION.

1. A "fire plan" should be set up prior to beginning a demolition job. This plan should outline the assignments of key personnel in the event of a fire and provide an evacuation plan for workers on the site. *Common sense* should be the general rule in all fire prevention planning, as follows:
 - All potential sources of ignition should be evaluated and the necessary corrective measures taken.

- Electrical wiring and equipment for providing light, heat, or power should be installed by a competent person and inspected regularly.
 - Equipment powered by an internal combustion engine should be located so that the exhausts discharge well away from combustible materials and away from workers.
 - When the exhausts are piped outside the building, a clearance of at least six inches should be maintained between such piping and combustible material.
 - All internal combustion equipment should be shut down prior to refueling. Fuel for this equipment should be stored in a safe location.
 - Sufficient firefighting equipment should be located near any flammable or combustible liquid storage area.
 - Only approved containers and portable tanks should be used for the storage and handling of flammable and combustible liquids.
2. Heating devices should be situated so that they are not likely to overturn and shall be installed in accordance with their listing, including clearance to combustible material or equipment. Temporary heating equipment, when utilized, should be maintained by competent personnel.
 3. Smoking should be prohibited at or in the vicinity of hazardous operations or materials. Where smoking is permitted, safe receptacles shall be provided for smoking materials.
 4. Roadways between and around combustible storage piles should be at least 15 feet wide and maintained free from accumulation of rubbish, equipment, or other materials. When storing debris or combustible material inside a structure, such storage shall not obstruct or adversely affect the means of exit.
 5. A suitable location at the job site should be designated and provided with plans, emergency information, and equipment, as needed. Access for heavy fire-fighting equipment should be provided on the immediate job site at the start of the job and maintained until the job is completed.
 6. Free access from the street to fire hydrants and to outside connections for standpipes, sprinklers, or other fire extinguishing equipment, whether permanent or temporary, should be provided and maintained at all times, as follows:
 - Pedestrian walkways should not be so constructed as to impede access to hydrants.
 - No material or construction should interfere with access to hydrants, Siamese connections, or fire-extinguishing equipment.
 7. A temporary or permanent water supply of volume, duration, and pressure sufficient to operate the fire-fighting equipment properly should be made available. Standpipes with outlets should be provided on large multi story buildings to provide for fire protection on upper levels. If the water pressure is insufficient, a pump should also be provided.
 8. An ample number of fully charged portable fire extinguishers should be provided throughout the operation. All motor-driven mobile equipment should be equipped with an approved fire extinguisher.

9. An alarm system, e.g., telephone system, siren, two-way radio, etc., shall be established in such a way that employees on the site and the local fire department can be alerted in case of an emergency. The alarm code and reporting instructions shall be conspicuously posted and the alarm system should be serviceable at the job site during the demolition. Fire cutoffs shall be retained in the buildings undergoing alterations or demolition until operations necessitate their removal.

Appendix 3. Towing a Trailer Safely

Perform a safety inspection before each trip. Make sure that:

1. *The pin securing the ball mount to the receiver is intact.*
2. *The hitch coupler is secured. Spring bar hinges are tight with the safety clips in place (load equalizer or weight distributing hitches).*
3. Safety chains are properly attached.

Attach the safety chains to a permanent part on the tow vehicle, usually the hitch receiver. Cross the chains (like an X) under the hitch. This will form a cradle for the coupler and prevent it from hitting the ground should the hitch come out of the receiver or the coupler come off the ball. Make sure the chains are long enough to allow the tow vehicle and trailer to turn sharply, but not too long that they might drag along the ground.

4. The electrical plug is properly installed. **Check all lights for operation and do not use trailer if any lights are burnt out or inoperable.**

Hitching up trailers with a weight distribution hitch

1. Raise the trailer tongue until there is enough room for the hitch ball to go underneath.
2. Back the tow vehicle up until the ball is directly under the coupler. It might help if there is someone that can assist you with this, but it can be done solo (it just might take a little more time).
3. Open the coupler latch mechanism and lower the coupler onto the ball just enough so that there is a little bit of weight on the ball. This should allow the latch mechanism to engage correctly so that you can lock it in place with a pin or lock.
4. Raise the tongue (and the rear of the tow vehicle) about 3" with the tongue jack so it is easier to install the weight distribution spring bars.
5. Insert one end of the spring bars into the hitch head.
6. Lower the snap-up bracket (sometimes called the saddle) and place the proper chain link onto the hook. If a dealer installed your hitch components, they should have shown you which link to use. If you did the installation yourself, you should remember which link to use. (It might be a good idea to mark the link with some tape, in case you forget some day.)
7. If you have the Dual-cam setup, rest the spring bars on the ends of the cam.
8. Using a short piece of pipe that should have come with your snap-up brackets, raise it back up to its normal position and secure it with a safety clip.
9. Repeat these last 2 steps on the other side.
10. Raise the tongue jack so that there is plenty of clearance between it and the road when traveling.
11. Attach the safety chains to a permanent part on the tow vehicle, usually the hitch receiver. Cross the chains (like an X) under the hitch. This will form a cradle for the coupler and prevent it from hitting the ground should the hitch come out of the receiver or the coupler come off the ball. Make sure the chains are long enough to allow the tow vehicle and trailer to turn sharply, but not too long that they might drag along the ground.
12. Attach the breakaway cable to a permanent fixture on the tow vehicle. This should not be attached to any other part that is used to pull or support the trailer tongue, like the bumper or receiver platform. Should the bumper or receiver fail and the breakaway cable is attached to it, the trailer brakes will not come on as intended, which could lead to serious injury or property damage to someone else.
13. Plug the trailer electrical cord into the receptacle on the tow vehicle and make sure all lights work

correctly.

Unhitching a trailer

1. Before unhitching, make sure the trailer is as level from side to side as you can get it by placing boards or blocks under all of the tires on the low side.
2. Chock the trailer tires so they won't roll.
3. Disconnect the electrical cord from the tow vehicle.
4. Disconnect the safety chains.
5. Disconnect the breakaway cable.
6. Raise the tongue high enough to take some weight/pressure off of the spring bars, if present.
7. Remove the safety clip from the snap-up brackets and use the short piece of pipe to lower the bracket so the chain can be removed from the hook. **BE CAREFUL!** If there is too much weight still on the spring bars, it could cause the pipe to come out of your hands. Raise the tongue higher to relieve more pressure if needed. If there is an angle difference between the trailer and the tow vehicle (the trailer is on level ground but the tow vehicle is going slightly uphill), this could also cause a problem. Repeat on other side
8. Lower the tongue so that more weight is on the ball, which will allow you to release the coupler latch mechanism (after you remove the pin or lock).
9. Raise the coupler until there is enough room to move the tow vehicle forward and the hitch out from underneath the coupler.