



# SAFETY MANUAL

**NO JOB IS SO IMPORTANT THAT IT CANNOT  
BE DONE SAFELY!**

**Updated February 2012**

**\*Required reading and compliance for all volunteers  
and sub-contractors working onsite.**

## **Mission of this manual:**

- To create safety awareness and a safe working environment for all Habitat volunteers and staff.
- Home construction can be a hazardous activity. It is expected that the Greater Fox Cities Area Habitat for Humanity construction process will be completed without any accidents.

**FIRST-AID KITS ARE AVAILABLE.**

**SEE SITE LEADER AND/OR SITE SUPPORT VOLUNTEER IF INJURED.**

**A COMPETENT SAFETY PERSON NEEDS TO BE ON EACH SITE.**

## **Guidelines to safety awareness and a safe working environment are:**

- Safety is a result of knowledge, skill, and an attitude of care and concern.
- Site leaders and crew mentors should set good examples by demonstrating safe usage of tools and monitor performances of each other and all volunteers.
- Everyone is responsible for their own safety and the safety of fellow workers.
- Safety is stressed to everyone at the morning meeting and throughout the day.
- Site leaders should briefly discuss recent safety incidents relevant to task to be performed.
- All accidents and near misses need to be reported promptly to the site leader, crew mentor or site support.
- It is the responsibility of the site leader to investigate and complete a written report for all safety related incidents.
- Tools should not be operated without proper instruction. (Site leader or crew mentor should not assume a person knows how to use the tool just because they say so. Audit their performance until you are satisfied the operator is competent).
- If you see an unsafe act or situation, notify site leader or crew mentor.
- If someone does not feel comfortable or safe doing a task that they should report it to the site leader to get reassigned.
- Staff will investigate an accident as soon as they are informed that an accident occurred.

## **Emergency contact information**

- Emergency contact information for each volunteer must be on file at the worksite.
- Hospital and Police phone #'s are posted in every tool trailer.

## **Proper attire:**

- No sandals or open-toed shoes may be worn on site - boots are recommended.
- Wear a shirt at all times. Long sleeves that are rolled up must be secured tightly.
- Shorts are permitted, but long pants are recommended.
- Do not wear dangly jewelry.
- Do not wear loose clothing.

## **Other General Precautions:**

- Avoid distractions when you are performing a task---FOCUS!
- Avoid horseplay, practical jokes, or other activities that may create a distraction.
- Anticipate pinch points and keep hands clear.
- Hurrying increases the chance of an accident.
- Smoking, illegal drugs and alcohol are not permitted on any Habitat worksite. Persons under the influence of drugs or alcohol are also not permitted on Habitat worksites.

## **Personal Protective Equipment:**

- Safety glasses must be worn at all times when onsite.
- A hard hat must be worn when work is being performed overhead or when directed by mentor/supervisor

- Wearing gloves, long-sleeved shirt and dust mask when installing insulation is recommended.
- Ear plugs or ear covers are recommended when operating power saws, pneumatic nailers, roto-zips, “Remington” etc. especially when in an enclosed area.

### **Lifting/carrying:**

- Lift with legs, bend knees and keep a straight back
- Have the appropriate number of people to lift/carry an object
- Do not lift more than you can handle alone. Ask for help.
- When carrying an object, watch for others to avoid hitting them
- Watch for tripping hazards

### **Clutter/tripping hazards:**

- Tools:
  - When a tool is no longer being used. Put it away or place in area out of the way.
  - Carry tools with the sharp edge down
- Power cords/air hoses:
  - Try to place the cords or hoses out of main traffic flow or walkways. Never along a stairway.
- Keep work areas and walkways clear of clutter
- Level ground
- Level the ground around the site before beginning construction

### **Building materials:**

- Discarded material should not be left lying around (lumber, nails, roofing, foam, etc.)

- Keep all walkways clear of trash/debris
- When task is completed, put tools away and clean up area
- Pick up/straighten up site at the end of each day (i.e. tools, scrap materials, etc.)
- Clean up spills when they occur
- Stack building materials in a safe manner
- Stack materials out of main traffic flow areas
- Remove any and all nails sticking out of boards immediately

## **Fall Protection Requirements**

### **Squaring foundation, Beam & Sill Plate Installation, Floor Joist Installation:**

- Backfill around the foundation will be at 42” or greater from top of wall.
- There will be one access point to a extension ladder to get into the basement from one of the egress wells. The egress well must have a safety cover on it.

### **Floor Sheathing Installation:**

- Full body harness with tie offs required by sheathing crew.
- No harness is required if 8’ or more from the “leading edge” work.

### **Truss Installation:**

- Wall jacks, planks and guard rails are to be installed on eave end walls.
- Center plank will be installed having 3 equally spaced supports under it at all times. The top of the plank must be less than 6’ from the floor.

## **Roof Sheathing:**

- Full body harness with tie offs required by sheathing crew unless working off the wall jack plank.

## **Lateral & Truss Bracing**

- Installed only from an approved ladder or while standing on the center plank.

## **Openings/Foundations:**

- Make sure backfill around the foundation is level.
- Use extreme caution when worksite is wet and slippery.

## **Egress Window Opening:**

- Safety cover must be installed.

## **Stairway or Scuttle Opening in Deck:**

- Ensure proper installation of cover materials.
- Try not to walk on cover!
- Use barricades (such as saw horses) when a ladder is used for descending.

## **Wall Jacks:**

- Install wall jacks according to instructions in construction manual.
- Ensure planks/staging is installed properly on wall jacks.
- Safety railings must be installed on all projects where the distance from top of planks to the ground level is 6' or more.

- Wall jacks and planks must remain in place until all volunteer roof work is complete.

## **Ladders:**

### General Ladder Rules:

- Use ladders for the purposes for which they were designed.
- Place ladder on solid footing. Use of boards to support ladder feet is not permitted.
- Provide a stairway or ladder for any point of access where there is a break in elevation of 19 inches or more.
- Use proper angle when leaning an extension ladder. When using a non-self-supporting ladder use the "four-to-one" rule: for every four feet of height, move the bottom of the ladder one foot from the wall.
- Keep body near the middle of the ladder. Avoid leaning off the edge of a ladder. Move the ladder frequently to avoid leaning too far.
- Ensure one hand is free to hold onto ladder when climbing or descending.
- Only one person on a ladder at a time – unless a 2 sided ladder is used.
- If necessary to place a ladder in a doorway, block the door.
- Do not use metal ladders near an electrical source.
- When climbing or descending, always face the ladder.

### Step Ladder Rules:

- When using a step ladder, open all 4 feet and lock spreaders in place.
- Do not step on the top two rungs or platform of a step ladder.

## Extension Ladder Rules:

- Top of extension ladders must extend a minimum of 3' above the supporting object when used as an access to an elevated work area.
- Ladders used to access another level by climbing up and off must be tied off (i.e.: roof deck, ground level from basement. Etc.).
- Before climbing extension ladders, make sure latches are properly engaged.
- Extension ladders must be overlapped a minimum of three rungs.

## **Falling objects:**

- Do not leave tools on top of ladder.
- Do not leave tools or other objects on ceiling rafters.
- When raising and placing walls, secure immediately.
- Avoid leaning objects such as level, lumber, etc.

## **Roofing:**

- Take precautions when climbing onto or off the roof.
- Extension ladders used to access roof must be tied off and extend 3' above the surface.
- When roofing, wear shoes with a soft sole with tread.
- Loose materials and sawdust should be removed frequently from the roof surfaces.
- Never work on a roof alone.

## **TOOLS and EQUIPMENT**

### **Tool Usage:**

- Use proper tool for the job being performed.
- If a tool is broken, or in poor working condition, take it to the site leader and do not use it.

Tools should not be operated without proper instruction. (Site leader or crew mentor should not assume a person knows how to use the tool just because they say so. Audit their performance until you are satisfied the operator is competent).

### **Guards and safety interlocks:**

- Make sure all guards and safety locks are in good working order before using the tool. If not, report it to site leader.
- Any guards or safety lock provided by the manufacturing **MUST NOT** be removed.

### **Automatic nailers/Pasload:**

- Do not use for “toe-nailing.”
- Do not point nailers at people, or use when anyone is in line of nailing direction (make sure all is clear).
- When clearing a jam, take the battery out.
- When holding an object to be nailed, keep hands at least 6" away from nailer.
- Do not carry the tool with finger on the trigger.

### **Air Compressor, Lines, Air Operated Guns:**

**CAUTION: Compressors generate 80 to 90 PSI pressure throughout the System. Treat with CAUTION!**

- **DO NOT** connect or disconnect components while the system is under pressure.

- Depress the trigger on the gun only when ready to be fired.
- Do not use for “toe-nailing.”
- Do not clear gun jams while the system is under pressure.

## **Saws:**

- All saws should be at full speed before cutting material.
- Ensure blade is sharp and blade guards are fully functional.
- Use ear protection if needed or in a confined space.
- Keep hands and fingers away from blade – at least 6 inches.
- Technique for operating Table Saws:
  - Stand to the side of the saw vs. behind the blade and material being cut.
  - Always push material being cut between the blade and the fence.
  - Use a push stick if distance between the blade and fence is 4" or less (push stick is used between blade and fence)
  - Never use the miter guide and the fence at the same time.
  - The chop saw or skill saw is preferred when making a cross cut.
  - Keep amount of blade exposed thru piece being cut to a minimum
  - Use two people to cut larger sheets of material
- Technique for operating Circular Saw:
  - Start saw before setting blade to the piece being cut.
  - Support material properly
  - Keep cord clear of saw.
  - Ensure objects beneath material being cut are clear of path of the saw blade.

- Blade depth must be set at no more than a 1/4" more than the thickness of the wood.

Example: If cutting a piece of wood 1 1/2" thick, set the blade at 1 3/4".

- Do not over-extend your reach.
- Technique for operating Miter/Chop saw:
  - Start saw before setting blade to the piece being cut.
  - Pull saw out, lower with blade running, and cut pushing back away from you.
  - Do not cut a piece of wood less than 6" in length.
  - Make sure hands are at least 6" away from the blade.
- Technique for operating Roto-zip:
  - Ensure bit is sharp.
  - Be sure collar is on the roto-zip and set to proper depth.
  - Use of dust mask and ear plugs are highly recommended.

### **Box Cutters/Utility Knives:**

- Always use a sharp blade
- Cut away from your body, never cut towards yourself
- Always close the cutter or retract the blade when finished
- Do not use blade as a screwdriver, can opener, or as a pry bar

### **WALL BOARD LIFT:**

- Check lift to ensure proper assembly
- Check cable to ensure it is not frayed or worn
- Ensure tripod pin is locked in open position

- Position lift before raising and tilting the board
- Control the descent of the lift with the winch handle, releasing the brake will result in a rapid descent of the lift

### **Electrical:**

- If working on an electrical tool or appliance, ensure it is unplugged.
- Do not use frayed or worn electrical cords, report these to site leader.
- Ensure all electrical tools are in safe, working condition by checking regularly for defects.
- Do not run electrical cords thru puddles of water
- Do not use plug if ground prong is broken or cut off – give it to site leader.
- Never carry power tool by the cord

### **Chain saw safety:**

- Chain saw is only to be operated by an adequately trained person. Personnel Protective Equipment is required by the chain saw operator at all times. They include:
  1. Safety glasses
  2. Hearing protection
  3. Hard hat
  4. Chaps
  5. Leather work boots

### **Bucket truck safety:**

- A visual inspection is to be made of the area and overhead for power lines. The bucket of the truck is stay clear of power lines by 10’
- The truck needs to be on level ground before the bucket and boom are used.

- The bucket trucks boom and bucket is not to be operated unless there at least 2 people present at all times. It can be either volunteer or staff. The second person needs to be a qualified operator and on site at all times when it is in operation.
- When using the bucket truck to fell trees: Only trees up to 35' will be allowed to felled. Any trees with a greater diameter than 35' will need to be left for a professional tree service.
- When cutting a limb or a branch the bucket needs to be above the point where the cut is to be made. Never make a cut when the bucket is lower than the cut point.

Working from the bucket when it is over the top of the truck or when the object you are working is over the top of the truck is not allowed.

### Heat Index

- The “Heat Index” is the combination of air temperature and relative humidity.
- The heat index chart shows 4 warning levels of yellow, gold, orange and red. Gold is the color we are concerned with.
- When the “heat index” is edging into the gold color range, low 90's, (see chart below) more breaks are recommended,
- Site support is to be delivering water to everyone and they are drinking it.
- Volunteers have the option to not work in the heat (going home) if they choose. Each person reacts differently to the heat. What may not seem like much to one will be hot to another.
- Once we are in that mid 90 degree heat index level, 94 degrees or higher, (see chart below) in the gold section we need to shut the sites down. At this point the risk of having someone suffer from heat exhaustion or heat stroke is much greater.

#### **Here are some heat exhaustion warning signs to watch for:**

Heat exhaustion happens when your body gets too hot. It can be caused by physical exercise or hot weather.

You may experience:

- Heavy sweating
- Feeling weak and/or confused
- Dizziness

- Nausea
- Headache
- Fast heartbeat
- Dark-colored urine, which indicates dehydration

**If you think you have heat exhaustion:**

- Get out of the heat quickly.
- Rest in a building that has air-conditioning. If you can't get inside, find a cool, shady place.
- Drink plenty of water or other fluids. Do NOT drink alcohol or caffeinated drinks (such as soda). These can make heat exhaustion worse.
- Take a cool shower or bath, or apply cool water to your skin.
- Take off any tight or unnecessary clothing.

## NOAA's National Weather Service

### Heat Index

Temperature (°F)

	80	82	84	86	88	90	92	94	96	98	100	102	104	106	108	110
40	80	81	83	85	88	91	94	97	101	105	109	114	119	124	130	136
45	80	82	84	87	89	93	96	100	104	109	114	119	124	130	137	
50	81	83	85	88	91	95	99	103	108	113	118	124	131	137		
55	81	84	86	89	93	97	101	106	112	117	124	130	137			
60	82	84	88	91	95	100	105	110	116	123	129	137				
65	82	85	89	93	98	103	108	114	121	126	130					
70	83	86	90	95	100	105	112	119	126	134						
75	84	88	92	97	103	109	116	124	132							
80	84	89	94	100	106	113	121	129								
85	85	90	96	102	110	117	126	135								
90	86	91	98	105	113	122	131									
95	86	93	100	108	117	127										
100	87	95	103	112	121	132										

Likelihood of Heat Disorders with Prolonged Exposure or Strenuous Activity

Caution     
  Extreme Caution     
  Danger     
  Extreme Danger

### Blood-borne pathogens:

- All cuts or wounds should be cleaned and bandaged immediately. If wound continues to bleed, consult site leader.
- An incident report must be filled out at the time of the incident
- Blood on any surface such as tools, drywall, studs, decking, etc must be flushed with chlorine bleach and wiped off immediately
- Disposable gloves should be worn when blood is involved to avoid contact

## **Age Restrictions for Construction Volunteers:**

**Note:** Exceptions to this policy can be made only when approved by the HFH Staff. Exceptions may include school, church, or service groups using their own insurance)

### **Under age 14:**

Persons under the age of 14 are not permitted on Habitat for Humanity work sites while construction work is taking place.

### **Ages 14 & 15:**

Individuals aged 14 & 15 can do limited work on a Habitat worksite. They can paint or landscape, but should not be on site when construction is going on. They must also be supervised on a 1 adult-to-1 youth ratio and have their registration form signed by a parent or guardian.

### **Ages 16 & 17:**

Individuals ages 16 & 17 can do general construction, but cannot help with excavation, demolition, use of power tools, or work at heights above 6 feet or on the roof. They can help with general carpentry. They must also be supervised on a 1 adult-to-3 youth ratio and have their registration form signed by a parent or guardian.

**There are no restrictions for persons over age 18**