

## Community Emergency Response Team



### Cribbing

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## Community Emergency Response Team

-  Personal safety is ALWAYS the number one priority
-  Show up prepared
  - Wear appropriate clothing and footwear, have WATER
  - Wear PPE - your personal protective equipment ...gloves, helmet, goggles, mask, boots, etc.
  - Have at least one communications device: cell, radio, etc.
-  Work as a team
-  Size-up - maintain situational awareness
-  The CERT goal is to do the **Greatest Good for the Greatest Number**
-  *Hope for the best but plan for the worst!*

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### Unit Objectives

- 🛑 Use safe techniques for debris removal and victim extrication using a lever and cribbing



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### Leveraging and Cribbing Operations



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## Cribbing Planning and Staging

- 👤 Conduct a **Size-up** of the scene
- 👤 Have one person in charge and formulate an action plan
- 👤 Gather necessary materials for leveraging (lifting) and cribbing operations



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## Crush Syndrome

- 👤 Crush syndrome is a medical condition that dictates whether a victim should be removed from a crushing load
- 👤 A crush injury is the result of a body part, usually an extremity, being subjected to a high degree of pressure
- 👤 At crush release, the products of muscle breakdown are released into the blood and are circulated. The person may suffer major shock and renal failure and death may occur
- 👤 If a crush has been in effect for **four** or more hours, the victim should remain in crush until adequate advanced medical care is available

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## Leveraging and Cribbing Operations

- When a large object such as a collapsed wall or heavy debris needs to be moved in order to free victims, leverage and cribbing may be used.
  - > **Leverage** is obtained by wedging a lever (pole or other long object) under the object that needs to be moved with a stationary object underneath it to act as a fulcrum. When the lever is forced down over the fulcrum, greater force is obtained to lift the object.
  - > A **crib** is a framework of wooden, plastic or metal bars used for support or strengthening. *Box cribbing* means arranging pairs of wood pieces alternately to form a stable rectangle. In a disaster situation, debris may be available to use for cribbing.
- Leveraging and Cribbing are **Perishable Skills** and must be practiced regularly

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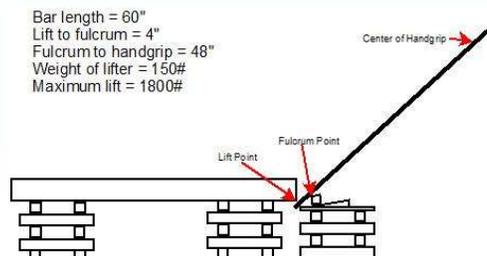
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## Leveraging

- Lever Defined:** A rigid bar, either straight or bent, that is free to move on a fixed point called a fulcrum
- A lever works by transferring a force from one place to another while at the same time changing the direction of the force



Clallam County Technical Rescue Team photo



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## Leveraging

### Lift an inch, Crib an inch

-  Stabilize the object to be lifted
-  Initiate the lift using the lever and fulcrum for mechanical advantage
-  Have someone available to handle the victim
-  As the object is lifted, add cribbing as needed; build on the foundation of the box crib
-  When the object is adequately supported, the victim may be removed

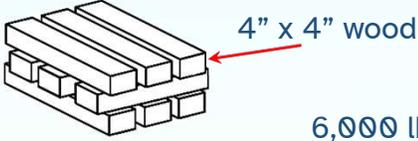
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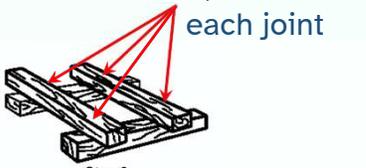
## Cribbing

**24,000** lbs. total if load is supported by 4 joints

**54,000** lbs. total if load is supported by 9 joints



4" x 4" wood



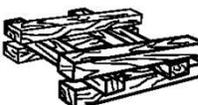
6,000 lbs. at each joint



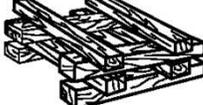
Step 1



Step 2



Step 3



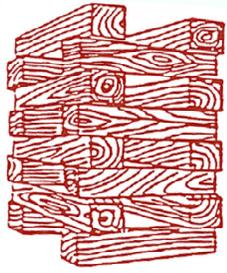
Step 4

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## Cribbing

- 🛑 Wood fails at cut ends first
- 🛑 Overlap ends by width of member - 4x4 = 3.5" overlap
- 🛑 Don't crib higher than three times the footprint (width) of the crib
- 🛑 Load needs to be supported with wood-to-wood contact all the way to the ground



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## Cribbing

- 🛑 Shims are used to match the angle of a surface
- 🛑 Shims balance the load by ensuring even contact




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## Cribbing

- 👤 Wedges, inserted as Married Pairs, are used as variable height crib members
- 👤 Wedges can be used as Inclined Planes to prevent sliding movement
- 👤 **Single wedges can be used for temporary stabilization until flat pieces can be inserted**

**“MARRYING” Wedges**

The diagram shows two scenarios of wedge placement under a rectangular load. In the 'RIGHT' scenario, two wedges are placed side-by-side, their top surfaces meeting to form a flat, stable base for the load. In the 'WRONG' scenario, only one wedge is used, leaving a gap on the opposite side, which makes the load unstable and prone to tipping.

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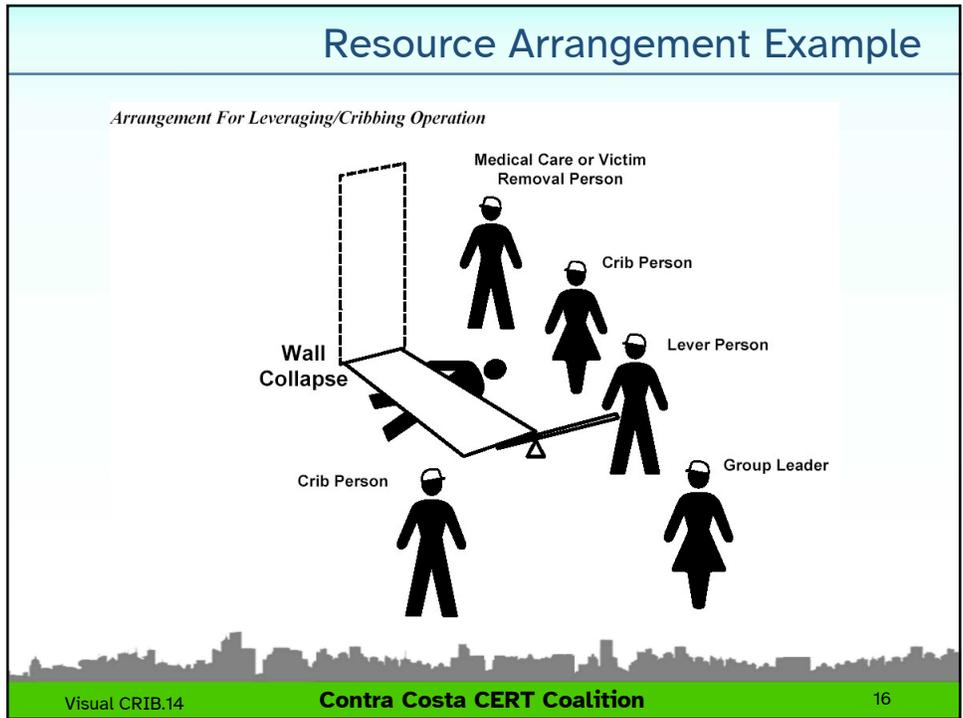
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## Cribbing Checklist

- 👤 Safety is most important
- 👤 Size-up the situation
- 👤 Stabilize the load
- 👤 Remove debris
- 👤 Raise the load
- 👤 Rescue the victim
- 👤 Lower the load
- 👤 **Keep hands and toes clear of the load at all times!**

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Questions ?



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