A lot of work requires the use of lifting tools such as hydraulic jacks, cranes and hoists. Any lifting tool can potentially fail and if you happened to be under a load during such a failure, chances are you would be injured or killed. Never get under raised equipment or components unless they have been properly blocked or cribbed.

- **Blocking** involves placement of wooden blocks, other designated blocking materials, or jack stands under equipment and components to keep them secure and stable while they are raised
- **Cribbing** is placement of a machine or component on alternating tiers of blocks

The support base that cribbing creates is larger than that created by blocking, which offers more stability. This is particularly important for loads above surfaces that are not perfectly firm and level.

Materials and Equipment

- **Oak** is one of the best types of wood for blocking and cribbing because it is particularly hard and able to withstand heavy weight. If they are in good condition, 6-inch by 6-inch (140-millimeter by 140-millimeter) oak blocks can handle extreme weights
- **Soft woods** like southern pine and Douglas fir are sometimes used for blocking and cribbing. They are good for unknown or difficult-to-calculate loads. Soft woods can easily split, chip or weaken under heavy loads, but they have warning signs when they become overloaded
- All blocks used for a job must be the same size for stability
- Inspect blocks before each use
- Look for defects such as splits and rounded edges

Jack stands are appropriate for blocking on firm, level surfaces, such as concrete. Before using a jack stand for blocking, always inspect it for damage to ensure it is in good condition and make sure the jack stand's weight rating is greater than the weight of the load it will need to support. Jack and jack stand load ratings will be legibly marked in a prominent location.

General Precautions

- Always compare the weight rating of your lifting device to the weight of the load and do not exceed lifting device capacity
- Establish and maintain multiple blocking and cribbing support points as necessary for a stable base under raised equipment
- Raise and lower equipment and components slowly from a position of safety.
 - Position yourself so that your body is not under the load
 - Avoid placing your hands between the load and the blocking and cribbing material. Slide the wood into position
- Equipment with functional onboard hydraulic systems may be used to lift equipment so blocking and cribbing can be placed

- Never rely on hydraulics to support attachments
- Whenever possible, move equipment to a place where the ground is firm and level because hard surfaces reduce the likelihood of settling, instability and equipment upset
 - \circ $\,$ When you absolutely must crib on rough or uneven ground, you need to level out the machine in a safe manner $\,$

Safety Principles

Cribbing When Lifting by Jacking Stages

Whenever possible, you should place a jack on a hard surface, such as concrete. Jacks can also be placed on blocks on the ground. If you must, you can use cribbing to lift by jacking stages:

- Put as many tiers of cribbing as possible under the load before you lift it
- Build a crib for the jack, high enough for the jack to extend enough to lift the load
- Create a platform for the jack out of hardwood timbers. Place the platform in the center of the cribbing and make sure it provides a base at least one and half times as wide as the jack's footprint
- Place the jack on the platform and use the jack to lift the load enough so you can add an additional tier to the cribbing under the load; add the tier
- Repeat this process as many times as necessary

Cribbing on Rough or Uneven Terrain

When you absolutely must crib on rough or uneven ground, you need to level out the machine. The precise method you should use will depend on the exact nature of the terrain. You may not be able to determine exactly what you will need to level the machine until you are on-site, so bring plenty of equipment.