

# Grain Entrapment Prevention

## New Design Parameters for Future Grain Handling Systems

1. Provide better grain conditioning and monitoring equipment, which is actually used properly and frequently.
2. Utilize higher airflow rates or capability, along with better roof exhausters and vents.
3. **Access Doors:**
  - a. Provide safer and easier access into the top of bins
  - b. Position top access doors in the 1 or 5 o'clock position relative to the top conveyor, which runs from peak- to- peak with multiple bins.
  - c. **Avoid use of 24 inch round openings**, unless they are being used for air and / or light only.
  - d. Provide for safer ladders and work-platforms. Any work-platform more than four feet from the ground needs a legitimate 4' x 4' platform with hand-rails.
4. **Restraint Systems** — Provide a means for the operators to properly secure their lifelines.
  - a. Overhead anchorage point
  - b. Unconditional tie-off and means to minimize slack in lifeline.
5. **Reclaim Systems** — Provide safer and more efficient systems to unload the bin, which will not plug and encourage an operator to enter the bin , while unloading it. Focus upon:
  - a. Unloading conveyors
  - b. Size, spacing and design of discharge sump holes... Bins that are larger than 40' diameter should **avoid 12" x 12"** or 14" x 14" center holes.
  - c. Service tunnels, in general, need to be larger, so operator can service equipment more effective. Any bin that is 80' diameter or larger should have a minimum 7' x 7' service tunnel.