

Toolbox Talks 2

072: Unsafe Conditions: Motor Installation

Discussion leader duties for this session:

Think about the possible dangers that could exist for a crew that's installing a motor.

What this Safety Talk covers:

This Safety Talk addresses unsafe conditions that may exist during motor installation.

Discussion notes:

Additional considerations:

You also need to be aware of unsafe conditions that may exist in the supply to the motor. This includes such things as an improperly mounted disconnect, improperly secured panel cover, incorrect or outdated drawings, and lockout/tagout violations.

Unsafe conditions in motor installations

- Damaged motor parts. During shipping, a motor may be damaged, producing an easily overlooked sharp edge. The motor feet and the weatherhead are the most vulnerable parts. Do a quick visual check. If these parts appear damaged, they probably will have to be replaced.
- Grease in the work area. Motors have grease fittings, and may be a source of grease you can slip on. But a more likely source is production equipment. For example, roller bearings in conveyor systems.
- Oil in the work area. Another slipping hazard, oil may be present due to a motor gearbox leak or spill. Look for the presence of process fluids also.
- Clutter or debris in the work area. Obviously a slipping hazard. If you're using a wheeled cart, debris can cause it to stop suddenly and the motor to lurch off it.
- Process piping in the work area. This is especially an issue with pump motors. Check the installation site. Note the location of hot process pipes, and provide any protective barriers and PPE needed to eliminate burn hazards. Note the location of pipes that carry hazardous substances (flammables, toxins, corrosives), and provide the needed barriers and PPE.
- Improper support or securing of load. When installing a motor, you may need to move the load to align it with the motor. If so, make sure the load won't slip.
- Improper support or securing of motor. Same caution as for the load.
- Wrong item being used to bear the lifting load. The structural members of the building may not be sufficient to bear the weight of the motor. You don't know their capacity and you don't know how much of it is already used up. Erect an A-frame or provide some other suitable means for bearing the weight of the motor.
- Inadequate lifting mechanism. Check all lifting devices for suitability to the task.
- Improper bonding. Grounding is often used where bonding is required. Grounding means connecting to the earth, while bonding means creating a metallic path. Bonding eliminates differences of potential, and thus shock hazards on non-current-carrying parts such as enclosures. Grounding does not.

Review and discussion

1. What's one reason to give the motor a quick visual check before installing it?
2. What's the problem with grease in the work area, and where might it come from?

- Participant's Signature and Date***

This image shows a single sheet of white paper with horizontal blue ruling lines. The lines are evenly spaced and run across the width of the page. There are no margins, text, or other markings on the paper.