No-Wrench Anchor Installation Instructions

- No-wrench screw anchors may be installed by hand, portable drive systems or skid steer type equipment. Follow appropriate procedures with each type.

- Position installing equipment so anchor alignment will be maintained throughout the entire installation.

- Insert no-wrench anchor into drive head tool and secure.

- Position the anchor shaft point where anchor is to be installed.

- Set anchor to the required guy angle. Installed anchor should be within +/- 10° of the guy inclination.

- Apply torque and down force (crowd) to advance the anchor an axial distance = to the helix pitch. Example: If the helix pitch is 3 inches (7.6 cm), then for each rotation the anchor should advance a distance of 3 inches (7.6 cm).

- Note: If difficult to start the anchor because it slides across the ground, then dig up some of the soil so the helix has some lateral support.

- Note: It is important to maintain alignment and control of down force (crowd) throughout the installation as it is easy to bend the shaft of a no-wrench screw anchor.

- The installation rate is what is best for maintaining control. Typically in the range of 5 to 20 RPM (Revolutions Per Minute).

- Note: It is important that the anchor does not “chum” or spin in place because the soil will be disturbed and the holding strength of the anchor will be reduced. Be sure that for the last 3d, or 3 times the helix diameter, the anchor is installed correctly.
- The anchor should be installed so the eye portion is in the typical 12 inches (30.5 cm) to 18 inches (45.7 cm) above grade. The eye, connecting hardware, and guy wire should not be covered by soil.

**Figure 1:** Proper no wrench anchor installation.

**Figure 2:** Anchor with a bending load applied to it.
Safety

Call Before You Dig
- Know the locations of all underground utilities: gas, electric, telephone and cable.
- Job site hazards are created every day.
  - When installing anchors there are many different OSHA regulations that may come into play
  - There should be a weekly/daily safety meeting on every job site
  - Pointing out the potential hazards that you may encounter now or in the future

Safety Basics
- Appoint a safety officer
- Schedule weekly safety meetings
- Assembly a safety manual
- Maintain a safety library consisting of videos, reports, books, etc.
- Inspect your jobs for good safety practices
- MSDA sheets should be in all vehicles
- Good safety equipment and practices leads to lower operating costs

Safety Equipment
- Safety equipment must always be in good working order
- Don’t buy price – buy quality
- Require safety equipment usage, no excuses for non-compliance can be accepted
- Schedule regular (i.e., weekly, semi-monthly) vehicle and equipment safety training for your operators

Basic Equipment
- Steel-toed boots
- Hard hat
- Safety glasses or goggles
- Gloves
- First aid kit
- Safety harness and lanyard
- Hearing protection
- Respiratory protection when needed
Safety Alerts

- Before installing the no-wrench anchor, determine location of all underground utilities (electrical, gas, water, sewer lines, telephone, CATC, etc.) to prevent accidental anchor contact or puncture. Avoid contact with underground utilities. Contact between the no-wrench anchor and underground objects may result in serious injury, death and/or property damage. No-wrench screw anchors are steel and are electrically conductive.

- Danger of Crushing. When using portable installing equipment do not place anything between the torque bar and the object restraining it. Failure to remove obstacles or personnel may result in serious injury, death and/or property damage.

- Danger of Crushing. Test the rotation of the torque bar. Be sure it will react in the direction of the restraining object. It should always be in place to prevent a counter clockwise rotation.

- Do not try to physically restrain the torque bar with body or body parts. An immovable object must be used to restrain the bar from turning. Trying to restrain the bar may result in serious injury, death and/or property damage.

- IMPORTANT: Do not place the torque bar so that it is free to swing around when torque is applied to the motor.

- Danger of Crushing. Always use the full length (typically 8 ft) (2.4 m) of the telescoping torque bar attached to the helical pile drive head. Using a shorter length will not restrain torque and may result in serious injury, death and/or property damage.

- Check all hydraulic hoses for damage before using the driver. Replace any split, fraying or damaged parts.

- Do not leave the helical pile driver in mud or water. If water enters the gear housing, the grease must be replaced to prevent damage to the gears.

- Do not place the helical pile driver head on top of hydraulic hoses when finished installing the anchor. Damage to the parts may cause serious injury or death.

- Do not over torque the helical pile drive head. Watch the gauges to monitor the torque output. Do not use the helical drive head past its maximum rating. Over-torque may result in damage of the gear and motor assemblies, which may result in serious injury, death and/or property damage.

- Check bolts on ALL equipment and hardware periodically to ensure they remain tight. Loose or damaged bolts may fail. Check all parts periodically for wear or damage and replace as necessary. Replacement bolts must be the same grade and length as the originals.