

OPERATING INSTRUCTIONS

CHANCE® DIGITAL TORQUE INDICATOR

C3031689NR



⚠ WARNING

Read all instructions, warnings, and cautions before operating this device. Failure to do so could result in voided warranty, property damage, serious injury, or death.

The CHANCE® Digital Torque Indicator is designed for use in installation of CHANCE® screw anchors/piles in soils. These instructions are intended to illustrate the proper use of the C3031689NR Digital Torque Indicator. Anchor installation tools covered in these instructions should be used by competent personnel familiar with and following good work and safety practices. These instructions are not intended as a substitute for adequate training and experience in safe procedures for this type of equipment.

INSTALLATION

The torque indicator is installed between a CHANCE® Kelly bar adapter and anchor drive tool or locking dog assembly using the bolts and lockwashers provided with the torque indicator. To prevent binding and possible damage to the bolts, follow these procedures when installing or removing a Kelly bar adapter or drive tool:

- When installing, thread in all of the bolts until they are snug against the lockwashers then tighten them to the torque specified in the table below.
- When removing, loosen all of the bolts about 1/2 turn then remove the bolts.

⚠ CAUTION

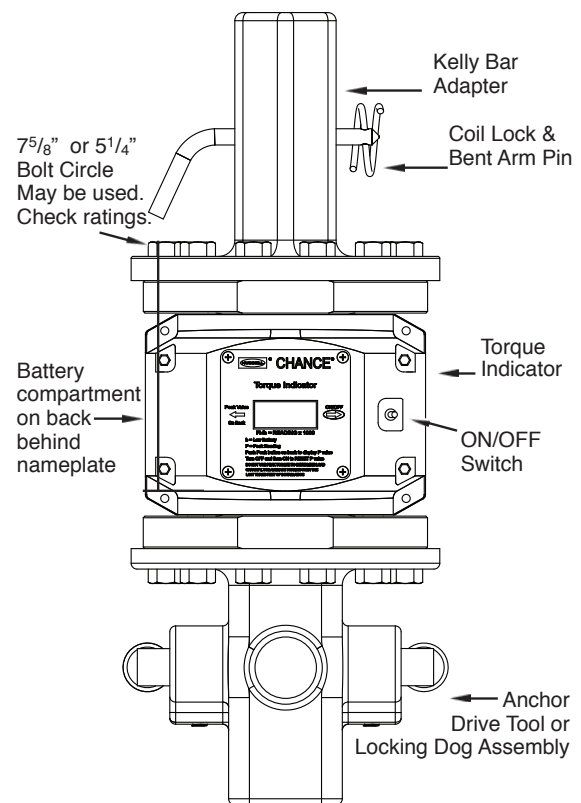
Failure to follow the proper procedure for installation or removal of the bolts may result in damage to the bolts and render them unusable.

If bolts or lockwashers become worn or damaged after extended use, they should be replaced. Replacement bolts should be of the same size, length, and grade as the originals. Catalog number C3031757 is available as a complete package of all bolts and lockwashers. Be sure to use the appropriate adapters and bolts for the maximum installation torque to be transmitted. All CHANCE® screw anchor installation tools are torque rated. Mounting bolts and bolt tightening torques for anchor installation torque ranges are shown below:

Maximum Torque (ft-lb)	Bolt Circle Diameter (in)	Bolts with Lockwashers			
		Total Required	Bolt Size (in)	SAE J429 Grade	Bolt Torque (ft-lb)
10,000	5-1/4	12	1/2	5	75
30,000	7-5/8	24	5/8	5	95

⚠ WARNING

Loose parts may be thrown at high speed. Can cause property damage, serious injury or death. Use installation tooling and mounting bolts with strength ratings higher than anchor installing torque.



Attach Kelly bar adapter to top and anchor drive tool or locking dog assembly to bottom of torque indicator as described above. Align the Kelly bar adapter with the Kelly bar so that the cross pin holes will match up and slide the Kelly bar adapter onto the Kelly bar. Secure in place with the bent arm pin and coil lock provided with the Kelly bar adapter.

⚠ WARNING

Loose parts may be thrown at high speed. Can cause property damage, serious injury or death. Use only the proper size CHANCE® bent arm pins and coil locks for cross-pin attachment of Kelly bar adapters to Kelly bars and anchors to drive tools.



FEATURES

- Sealed for weather resistance
- Can withstand drop from 6 ft
- Operating temperature range of -22 °F (-30 °C) to 158 °F (70 °C)
- ON/OFF push button on front of torque indicator
- MODE push button on back of torque indicator
 - Displays Peak torque measured since torque indicator last turned on
 - Displays cumulative number of torque cycles since last calibration
- Integral high-visibility 4 digit LCD screen
- Replaceable scratch/impact resistant screen protector; one spare included, extras available from Bevins Co.
- Torque displays from 500 ft-lb to 30,000 ft-lb in 100 ft-lb increments
- Power: One 9V battery; user replaceable
- Low battery warning: “b” displays on left side of screen
- Energy conservation
 - Auto Power-Off: Torque indicator shuts off after 15 minutes if torque load remains unchanged.

USE

Follow standard installation procedures for the appropriate CHANCE® screw anchor. Before installing the anchor, be sure to turn on the torque indicator by firmly pressing and releasing the ON/OFF push button switch located on the front of the device. The torque indicator will display 0.0 reading when the torque load is less than 500 ft-lb. Monitor torque readings during the entire installation to ensure anchor and tooling torque ratings are not exceeded. Remain at a safe distance from the drive train whenever torque is being transmitted, even when taking readings.

WARNING

Loose parts may be thrown at high speed.
Can cause property damage, serious injury or death.
Stay away from drive train.

The torque indicator stores the Peak torque value measured since it was last turned on and the number of torque cycles accumulated since its last calibration. (A torque cycle is defined as an increase in torque reading to above 1000 ft-lb and a subsequent return to below 500 ft-lb.) Push and release the MODE button on the back of the torque indicator at any time when the device is on to view the Peak value and number of cycles. The torque indicator must be turned off to reset the Peak value. The number of cycles cannot be reset by the user. Hubbell Power Systems recommends the torque indicator calibration be verified once per year or after 5000 torque cycles, whichever is reached first. To predict anchor capacity, use the average torque developed during the last three feet of installation. Do not use the Peak torque value. Relieve all loads (axial, torsional, and bending) on the drive train and check zero setting and bolt tightness after each anchor installation.

WARNING

Loose parts may be thrown at high speed.
Can cause property damage, serious injury or death.
Monitor the condition of all parts in the drive train and repair or replace as necessary. Check all fasteners along the drive train periodically to ensure they remain tight and undamaged. Loose or damaged bolts may fail at or below rated torque or contribute to damage elsewhere in the drive train. Replacement bolts must be the same size, grade and length as the originals supplied by CHANCE.

Maintain alignment along the drive train. Excessive axial and/or bending forces could affect torque readings. Digging equipment can impose high bending moments on the drive train if alignment is not maintained. This can damage or destroy drive train components.

WARNING

Loose parts may be thrown at high speed.
Can cause property damage, serious injury or death.
Do not allow bending moments in excess of 6000 lb-ft to develop in drive train.

CAUTION

Improper use can damage internal parts.
Can render the torque indicator inoperable and will void the warranty.
Do not use in obstruction-laden soil.

The torque indicator is powered by a single 9V battery. To access or replace the battery, remove the nameplate on the back of the torque indicator. A “b” will display on the left side of the torque indicator screen when the battery is low. Replace the battery as soon as possible when the low battery warning displays to prevent loss of function.

CAUTION

Firmly tighten nameplate screws when replacing battery.
To prevent stripping of threads, do not overtighten screws.
Loose, missing, or stripped screws can compromise the case seal and allow moisture to penetrate the case.

The torque indicator is equipped with an energy conservation feature to extend the battery life. After 15 minutes with no change in torque load, the torque indicator will Auto Power-Off. After Auto Power-Off, the torque indicator must be turned on using the ON/OFF switch.

STORAGE

The torque indicator has a sealed case to prevent water penetration during ordinary exposure (i.e., working in rain or snow). The seal will not protect it from long term exposure to the elements or from forced entry of water such as from immersion or highway transportation in the open. It must be stored and transported such that it is protected from water penetration of the case.

⚠ CAUTION

Moisture inside case can damage internal parts.
Can render the torque indicator inoperable and will void the warranty.
Protect from moisture penetration of case during storage and transportation.

The torque indicator can be safely stored at temperatures between -22 °F (-30 °C) and 176 °F (80 °C). To prevent damage to the torque indicator, do not store at temperatures outside this range.

⚠ CAUTION

Exposure to temperatures outside the storage range can damage internal parts.
Can render the torque indicator inoperable and will void the warranty.
Protect from exposure to temperatures outside the specified storage range.

WARRANTY

One year warranty. There are no internal field serviceable parts. Warranty is void if improper use, storage or transportation has occurred or if outer housing or faceplate seal is broken or any internal part removed. For repair or calibration verification, contact Bevins Company.
www.bevinsco.com
Office - (918) 627-1273
Fax - (918) 627-1294
9903 E. 54th Street
Tulsa, OK 74146

These instructions do not cover all details or variations in equipment, nor do they provide for all possible conditions to be met with concerning installation, use, maintenance, or storage of this equipment. If further information is desired or if particular problems are encountered which are not sufficiently covered in these instructions, contact Hubbell Power Systems.

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