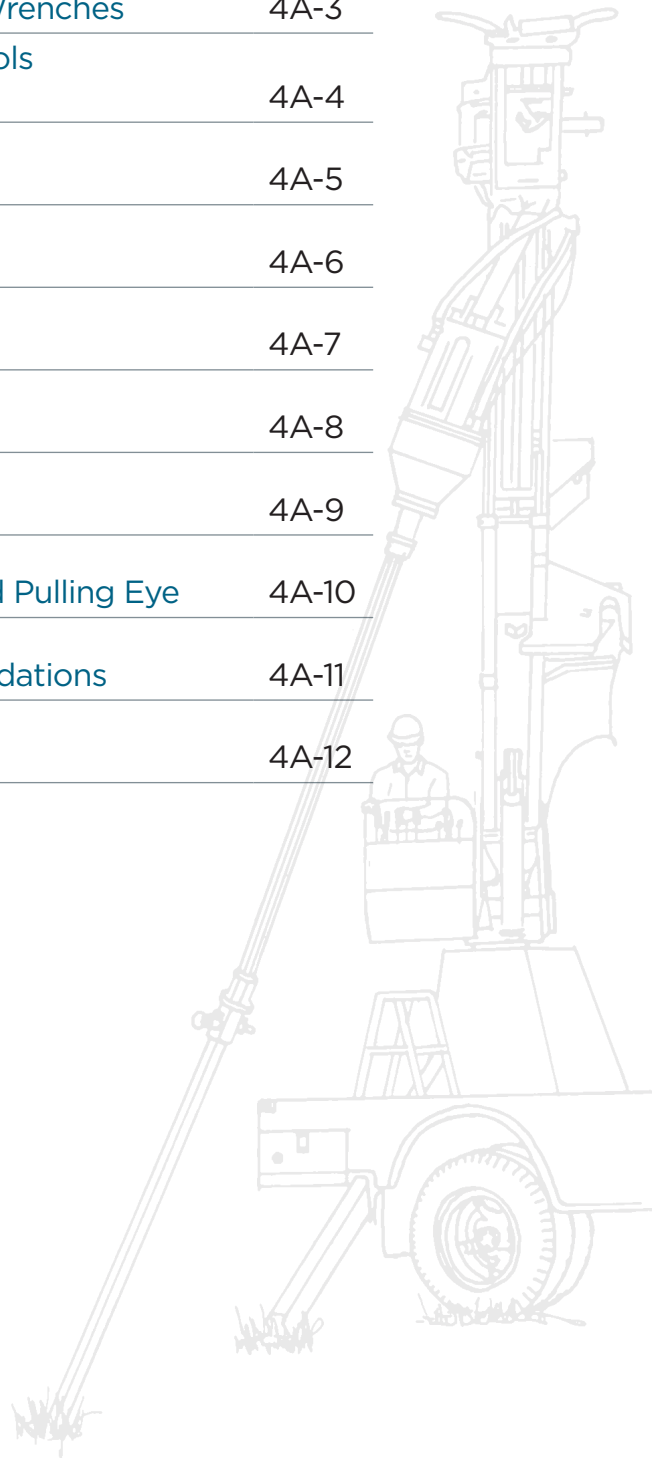


# ANCHOR TOOLS



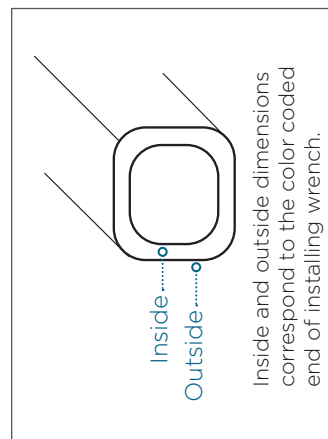
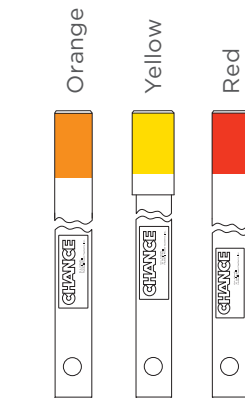
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# HOW TO MATCH ANCHORS AND DRIVE-END WRENCHES

<b>PISA® 6 Anchor</b>																										
				Yellow	Yellow	Red	Red	Red	Red	6,000	7,000	4,000	6,000	8,000	10,000	10,000	15,000									
<b>PISA® 7 Anchor</b>																										
				Yellow	Yellow	Red	Red	Red	Red	6,000	7,000	4,000	6,000	8,000	10,000	10,000	15,000									
<b>Standard-Strength PISA® Anchor</b>																										
			Orange	Orange																						
<b>Mid-Strength PISA® Anchor</b>																										
			Orange	Orange																						
<b>C10252XX Series TOUGH ONE® Anchor Small Hub</b>																										
			Orange	Orange																						
<b>C10252XX Series TOUGH ONE® Anchor Large Hub</b>																										
					Yellow	Yellow	Red	Red	Red																	
<b>C10250XX Series TOUGH ONE® Anchor Large Hub</b>																										
<b>C10250XX Series TOUGH ONE® Anchor Large Hub</b>																										



# STANDARD AND HYBRID PISA® DRIVE TOOLS (10,000 ft-lb)

A complete tool system consists of: Kelly Bar Adapter, Torque Indicator, Locking Dog Assembly, and Drive-End Wrench. For instructions for selecting the proper Kelly Bar Adapter, see page 4A-5.

The Drive-End Wrench transmits the torque from the Kelly bar of the digger to the hub of the Power-Installed Screw Anchor (PISA®) so that the anchor rod need be only large enough in diameter to support the guy load.

## STANDARD Kelly Bar Adapter with Bent Arm Pin (5¼" Bolt Circle)

Catalog No.	Kelly Bar Shape	Kelly Bar Dimension (in)			Weight (lb)
		X	Y	Z	
630013	Hex	2	5	6½	10
630011HD	Hex	2½	4¼	8½	18
630012HD	Hex	2¾	4¼	8½	18

Each STANDARD Kelly Bar Adapter has six holes for ½" bolts on a 5¼" bolt circle and includes twelve ½" Grade 5 bolts, nuts, and lock washers, and a bent arm pin with coil lock.

## STANDARD Locking Dog Assembly

Catalog No.	Description	Weight (lb)
C3030069HD	Complete STANDARD Locking Dog Assembly	20
C3030070	Locking dog replacement kit (includes parts needed to replace both locking dogs)	4
P1300007P	Replacement ring only	0.1

The STANDARD Locking Dog Assembly has six holes for ½" bolts on a 5¼" bolt circle, and comes with six ½" Grade 5 bolts, nuts, and lock washers.

## STANDARD and HYBRID Drive-End Wrenches

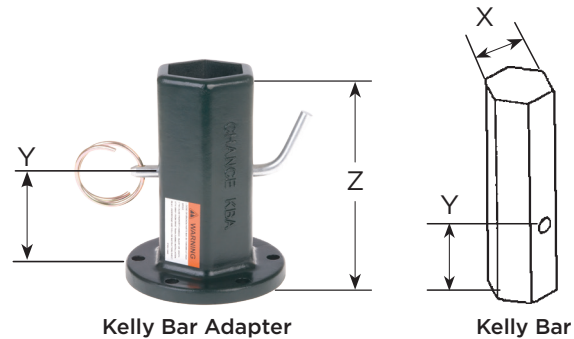
Cat. No.	Length (ft)	Description	Weight (lb)
C1021583	7	STANDARD Drive-End Wrench installs:	55
C1021595	3½	- All small hub TOUGH ONE® anchors - Standard-Strength PISA® - Mid-Strength PISA®	29
†C3031064	7	HYBRID Drive-End Wrench installs:	56
†C3031063	3½	- 10,000 ft-lb large hub TOUGH ONE® anchors - PISA® 6 - PISA® 7	30

## STANDARD Extension Wrenches

Cat. No.	Length (ft)	Description	Weight (lb)
630027	3½	Extension attaches to Drive-End Wrench when additional depth is required.	42
630028	7		70
630002P	N/A	Replacement dog bolt (sold individually, order 2 if full set is needed)	0.5

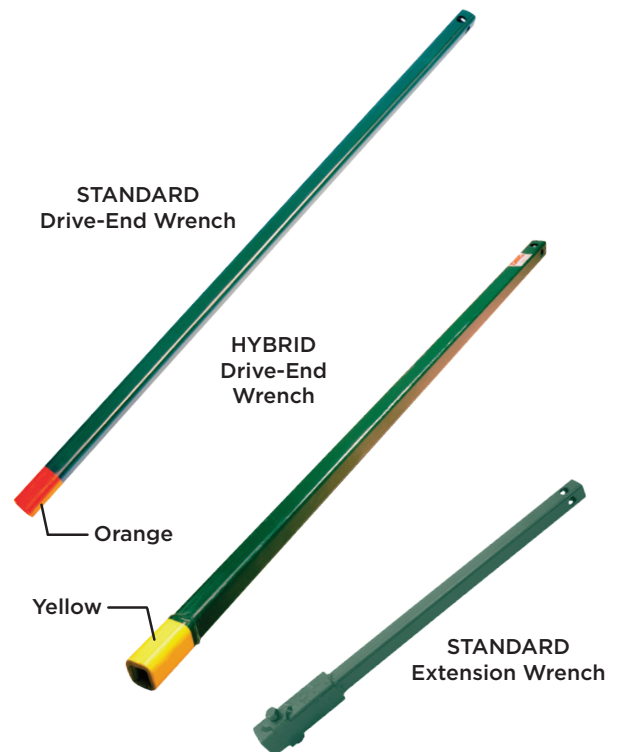
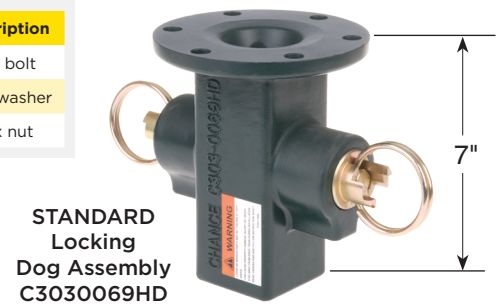
\*NOTE: These wrenches will fit 15,000 ft-lb TOUGH ONE® anchors dimensionally but MUST NOT BE USED FOR TORQUE IN EXCESS OF 10,000 ft-lb!

Extension Wrench assemblies can be added where soil conditions dictate that anchors be set more than one rod length deep or where digger to ground clearances are limited.



## Replacement Hardware

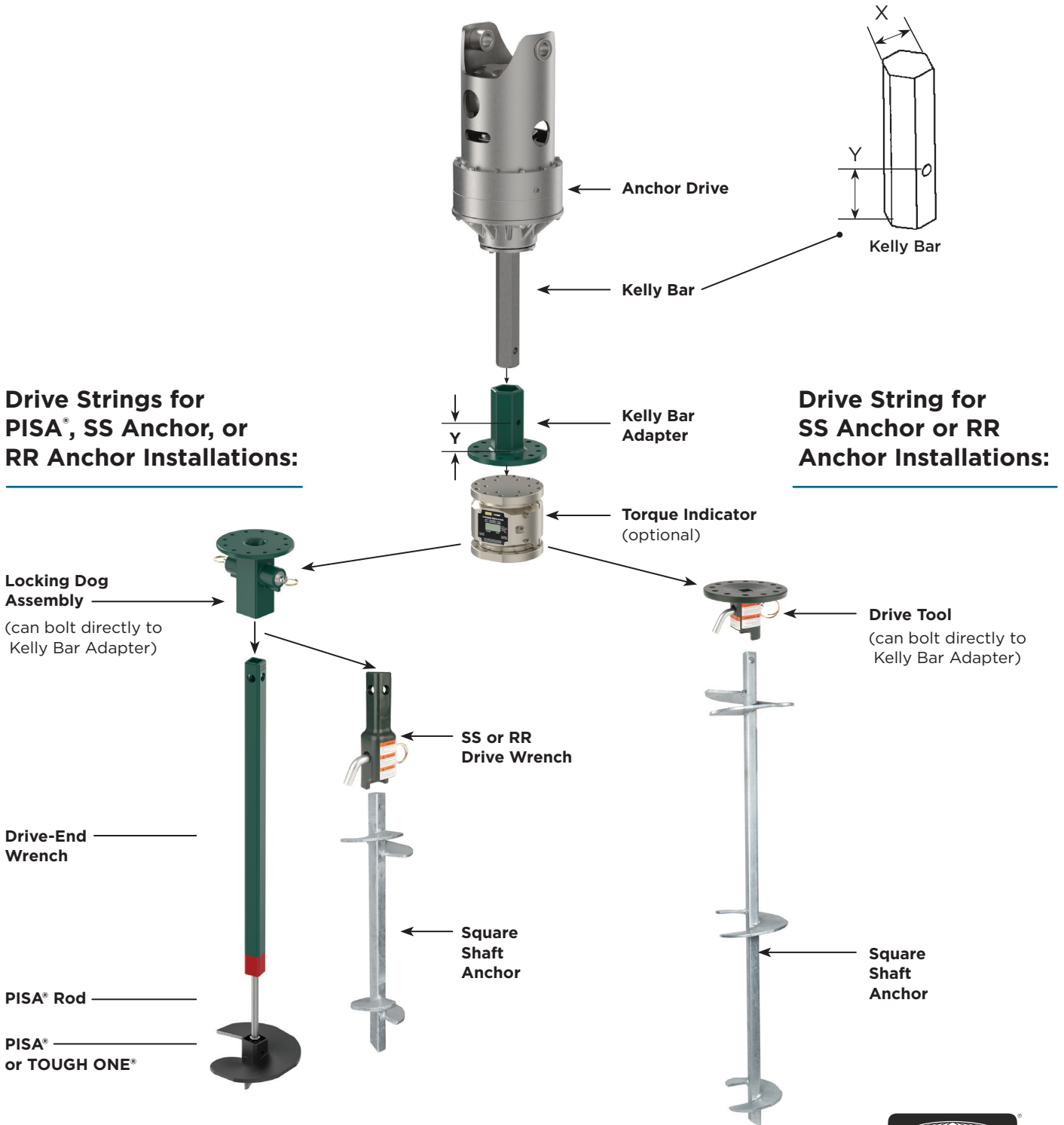
Catalog No.	Description
P0010259P	Hex bolt
O55371P	Lock washer
O55635P	Hex nut



# BUILDING A DRIVE TOOL STRING

Selecting the correct Kelly Bar Adapter is key to building a successful drive string. Follow these two easy steps:

- 1) Remove the auger from the digger and carefully measure the X and Y dimensions of the Kelly bar.
- 2) Match the shape of the Kelly bar and the X and Y dimensions with the Kelly Bar Adapter table provided on page 4A-4 or 4A-6. The Y dimension on the Kelly Bar Adapter must be equal to or greater than the Y dimension on the Kelly bar itself.



# TOUGH ONE® DRIVE TOOLS

A complete tool system consists of: Kelly Bar Adapter, Torque Indicator, Locking Dog Assembly, and Drive-End Wrench. For instructions for selecting the proper Kelly Bar Adapter, see page 4A-5.

## TOUGH ONE® Kelly Bar Adapter with Bent Arm Pin (7<sup>5</sup>/<sub>8</sub>" Bolt Circle)

Catalog No.	Kelly Bar Shape	Kelly Bar Dimension (in)			Weight (lb)	Torque Rating (ft-lb)
		X	Y	Z		
C3030936	Hex	2½	3 <sup>7</sup> / <sub>8</sub>	8¼	23	12,000
C3030937	Hex	2 <sup>5</sup> / <sub>8</sub>	3 <sup>7</sup> / <sub>8</sub>	8¼	23	15,000
C3030940	Hex	3	4½	8	27	25,000
C3030955	Square	2½	4¾	7	22	17,000
C3030958	Square	3	3½ and 2 <sup>1</sup> / <sub>8</sub>	8	23	20,000
C3031571	Square	3½	2 and 4	6 <sup>1</sup> / <sub>8</sub>	33	30,000

Each TOUGH ONE® Kelly Bar Adapter has twelve holes for <sup>5</sup>/<sub>8</sub>" bolts on a 7<sup>5</sup>/<sub>8</sub>" bolt circle and includes twelve <sup>5</sup>/<sub>8</sub>" Grade 5 bolts, nuts, and lock washers, and a bent arm pin with coil lock.

### \*Digital Torque Indicator

Catalog No.	Description	Weight (lb)	Torque Rating (ft-lb)
C3031836	Torque Indicator adaptable to 5¼" or 7 <sup>5</sup> / <sub>8</sub> " bolt circle	65	30,000

\*See page 4A-9 for additional information on CHANCE Torque Indicators.

### TOUGH ONE® Locking Dog Assembly

Catalog No.	Description	Weight (lb)	Torque Rating (ft-lb)
C3030981	Complete TOUGH ONE® Locking Dog Assembly	28	15,000
C3031026	Locking dog replacement kit (includes parts needed to replace both locking dogs)	5	N/A

TOUGH ONE® Locking Dog Assembly has twelve holes for <sup>5</sup>/<sub>8</sub>" bolts on a 7<sup>5</sup>/<sub>8</sub>" bolt circle and comes with twelve <sup>5</sup>/<sub>8</sub>" Grade 5 bolts, nuts, and lock washers.

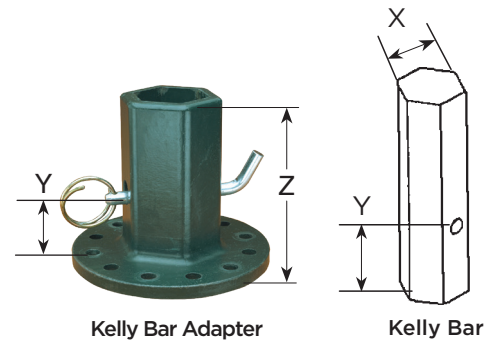
### TOUGH ONE® Drive-End Wrenches

Catalog No.	Length (ft)	Description	Weight (lb)	Torque Rating (ft-lb)
C3030982	3½	TOUGH ONE® Drive-End Wrench installs:	36	15,000
C3030983	7	- All large hub TOUGH ONE® anchors - PISA® 6 - PISA® 7	73	15,000

### TOUGH ONE® Extension Wrenches

Catalog No.	Length (ft)	Description	Weight (lb)	Torque Rating (ft-lb)
C3030987	3½	Extension attaches to Drive-End Wrench	53	15,000
C3030988	7	when additional depth is required.	89	15,000
P3031029P	N/A	Replacement dog bolt (sold individually, order 2 if full set is needed)	0.5	N/A

For SS and RR anchor tool options when using the TOUGH ONE® tool system, see page 4A-8.

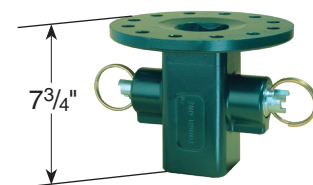


### Replacement Hardware

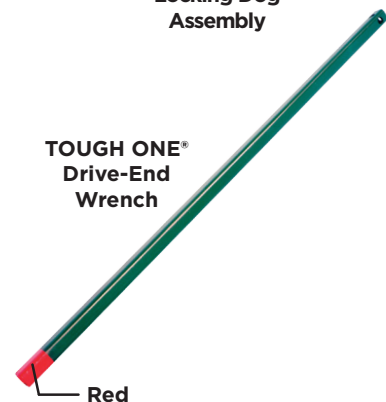
Catalog No.	Description
P0010259P	Hex bolt
055371P	Lock washer
055635P	Hex nut



\*Torque Indicator



Locking Dog Assembly



TOUGH ONE® Drive-End Wrench

Red



# BENT ARM PIN AND COIL LOCK ASSEMBLIES

Use with STANDARD and TOUGH ONE® Kelly Bar Adapters and SS, RR, and Bumper Post Installing Tools.

The CHANCE bent arm pin and coil lock are used to securely attach a Kelly Bar Adapter to a Kelly bar or an SS, RR, or bumper post anchor to an anchor drive tool.

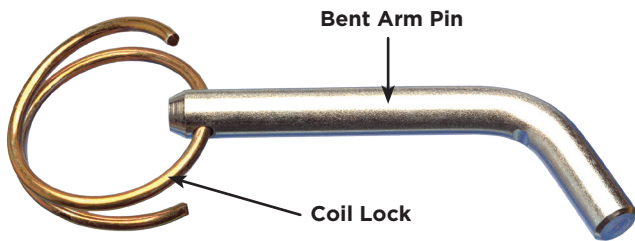
Bent arm pins with coil locks are included with new tools as required. Order pins and coil locks for existing tools as shown below.

## Bent Arm Pin and Coil Lock Compatibility

Kelly Bar Adapter	Bent Arm Pin and Coil Lock Assembly	SS/RR Tool	Bent Arm Pin and Coil Lock Assembly
630011HD	C3031223	639001	C3031226
630012HD	C3031223	C3030020	C3031226
630013	C3031223	C3030195	C3031225
630013A	C3031223	C3030201	C3031224
630014	C3031222	C3030202	C3031224
630015	C3031222	C3031077	C3031224
630016	C3031227	T3031403	C3031225
630017	C3031227		
C3030936	C3031223	<b>Bumper Post Tool</b>	<b>Bent Arm Pin and Coil Lock Assembly</b>
C3030937	C3031223	C3030737	C3031227
C3030940	C3031222	C3030739	C3031227
C3030955	C3031227		
C3030958	C3031227		
C3031571	C3031227		



Kelly Bar Adapter



To order coil lock only, order Catalog No. P3031215P.



## WARNING

CHANCE bent arm pins with coil locks are the only tested and approved means for through-pin attachment of drive tools. Do not attempt to use any other means of attachment.



## WARNING

Always use the approved combination of coil lock and bent arm pin. Never attempt to use any other retainer, such as a hair pin, cotter pin, etc., with a bent arm pin.

## Bent Arm Pin Dimensions

Catalog No.	Size [Length x Diameter] (in)
C3031222	5 x 5/8
C3031223	4 1/2 x 1/2
C3031224	4 1/2 x 1
C3031225	3 1/2 x 3/4
C3031226	3 x 5/8
C3031227	5 x 3/4

# SS, RR, AND NO-WRENCH DRIVE TOOLS

## For Installing SS or RR Anchors

These tools include our proprietary Alignment Window that helps reduce the chance of finger pinch when an anchor is inserted into the tool. The Alignment Window also makes it faster and easier to line up the anchor and anchor tool.

These tools mount to the appropriate Kelly Bar Adapter or a Torque Indicator, each sold separately. Mounting bolts, nuts, and lock washers are included.

Catalog No.	Description	Bolt Circle	Weight (lb)	Torque Rating (ft-lb)
639001	SS5/SS150/RR drive tool	(6) ½" holes on 5¼" B.C.	7	7,000
C3030195*	SS175 drive tool	(12) ⅝" holes on 7⅝" B.C.	18	10,500
C3030201*	SS200 drive tool	(12) ⅝" holes on 7⅝" B.C.	30	16,000
C3030202*	SS225 drive tool	(12) ⅝" holes on 7⅝" B.C.	30	21,000

\*Requires use of T3030166 adapter, and limited to 10,000 ft-lb, when used with STANDARD Kelly Bar Adapter (with a 5¼" bolt circle).

These tools slide into a Locking Dog Assembly and are retained by spring-loaded dogs.

Catalog No.	Description	Required Locking Dog Assembly	Weight (lb)	Torque Rating (ft-lb)
C3030020	SS5/SS150/RR drive tool	C3030069HD (STANDARD)	8	7,000
C3031035	SS175 drive tool	C3030981 (TOUGH ONE®)	11	7,000
T3031403	SS175 drive tool	C3030981 (TOUGH ONE®)	26	10,500
C3031077	SS200 drive tool	C3030981 (TOUGH ONE®)	23	15,000

Each of these drive tools includes an integral set of locking dogs that attach the drive tool to the anchor. There is no need to use a bent arm pin and coil lock to attach these tools to an anchor.

These tools mount to the appropriate Kelly Bar Adapter or a Torque Indicator, each sold separately. Mounting bolts, nuts, and lock washers are included.

Catalog No.	Description	Bolt Circle	Weight (lb)	Torque Rating (ft-lb)
C3031650	SS5/SS150 drive tool with locking dogs	(6) ½" holes on 5¼" B.C.	10	7,000
C3031645	SS175 drive tool with locking dogs	(12) ⅝" holes on 7⅝" B.C.	21	10,500

## For Installing No-Wrench Anchors

This drive tool attaches to a No-Wrench anchor via a cross-pin through the anchor eye. Pivoting guide plates adjust to fit anchor rods from ¾" to 1¼" diameter.

This tool mounts to the appropriate STANDARD Kelly Bar Adapter (5¼" bolt circle) or a Torque Indicator, each sold separately. Mounting bolts, nuts, and lock washers are included.

Catalog No.	Weight (lb)	Torque Rating (ft-lb)
E3030255	9	2,300



639001



C3030020



C3031650



E3030255



# CHANCE TORQUE INDICATORS

## Digital Torque Indicator For Installing Torque up to 30,000 ft-lb

Using the wireless CHANCE Torque Indicator, you can install screw anchors to a pre-determined torque value, which gives a positive indication of anchor holding capacity in any soil type.

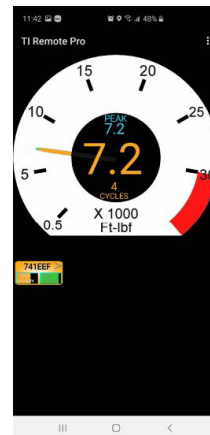
The Indicator mounts between the Kelly Bar Adapter and drive tool Locking Dog Assembly. The integrated LCD is easy to read in full daylight and provides a direct readout of installation torque.

### Features and Benefits

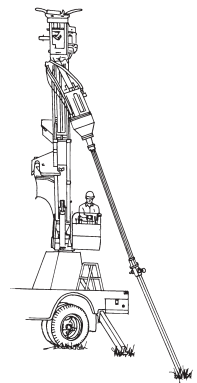
- Measuring torque is the most accurate way to determine the capacity of helical piles and anchors
- Torque is displayed on the integrated LCD and transmitted via Bluetooth® to Android and iOS phones and smart devices
- Multiple Bluetooth devices can be linked to a Torque Indicator
- Download the free Torque Indicator Remote Pro app from the Apple App Store or Google Play Store
- Torque data can be recorded with the app and shared via email
- Certificate of Calibration supplied with each new unit in case
- Operational temperature range: -30° to 70° C (-22° to 158° F)
- Measures torque up to 30,000 ft-lb
- Accuracy: ±500 ft-lb at any reading
- Torque is measured using strain gauges
- No shear pins to replace
- Powered by two standard 9V batteries
- Solid one-piece spool design to withstand most bending loads
- Top and bottom flanges have six holes tapped ½" - 13 on a 5¼" bolt circle and twelve holes tapped ⅝" - 11 on a 7⅝" bolt circle



Torque Indicator



App Display



Catalog No.	Description
C3031836	Torque Indicator

## Shear Pin Torque Limiter For Installing Torque up to 10,000 ft-lb

The Shear Pin Torque Limiter provides all the benefits of measured installation torque in a rugged, compact form factor.

### Features and Benefits

- Protects anchors and installing tools by disconnecting the power when the installing torque reaches a preselected level
- Usable in very rocky soil
- Durable — does not require special storage or handling
- Top and bottom have six holes tapped ½" - 13 on a 5¼" bolt circle



Catalog No.	Description	Weight (lb)
C3030044	Shear Pin Torque Limiter	54
*C3030045	One carton of shear pins (approx. 1700 pins)	50
*T3031420	One box of shear pins (approx. 510 pins)	15

\*Each shear pin provides 500 ft-lb of torque.

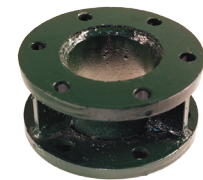
# BOLT CIRCLE ADAPTERS, EXPANDING BAR, AND PULLING EYE

## Bolt Circle Adapters

For installing Torque up to 10,000 ft-lb

These adapters are used to connect two tools having incompatible bolt circles. The C3030115 is for use between two tools having tapped 5¼" bolt circles. The T3030166 and T3030166N are for use between a tool having a 5¼" bolt circle and one having a 7⅝" bolt circle. These adapters are limited to 10,000 ft-lb of installation torque.

Catalog No.	Description	Weight (lb)
C3030115	Bolt circle adapter with two ½" x 5¼" bolt circles	11
T3030166	Bolt circle adapter with one ½" x 5¼" bolt circle and one ⅝" x 7⅝" bolt circle	18
T3030166N	Bolt circle adapter with one ½" x 5¼" bolt circle and one ⅝" x 7⅝" bolt circle on one steel plate. Note: Cannot be used with the Shear Pin Torque Limiter	10



C3030115



T3030166



T3030166N

## Expanding and Tamping Bar

The CHANCE fiberglass-handle Expanding and Tamping Bar simplifies the job of expanding anchors. The curved expander and tamper head distributes the weight of the bar evenly around the anchor rod to reduce handle vibration. The hook of the expanding and tamping bar wraps around the anchor rod to keep the expanding head from slipping off the anchor top plate. This tool is also effectively used for tamping in soil above the installed anchor. The cast head is attached directly to the fiberglass handle.

Catalog No.	Description	Length (ft)	Weight (lb)
C3020003	Expanding and Tamping Bar	10	22
C3020004	Expanding and Tamping Bar	12	24
*E3020001P	Fiberglass handle	10	7
*E3020006P	Fiberglass handle	12	8
P3020002P	Expander and tamper head	N/A	14



Fiberglass Handle

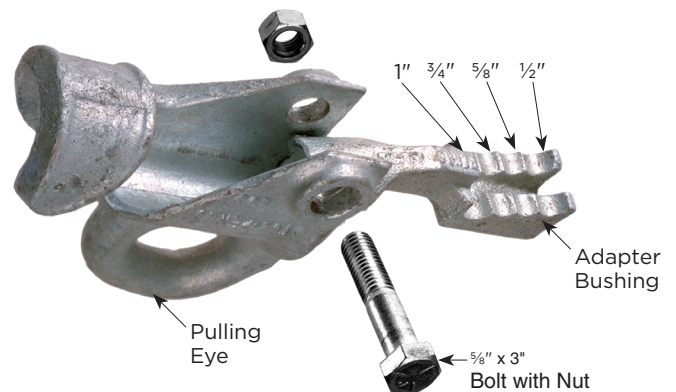
Expander and Tamper Head

\*Includes plug mix to reset handle.

## Pulling Eye

This inexpensive cost-cutter provides a large offset eye to accommodate three-ton chain hoist hooks and leaves the anchor eye free with plenty of clearance for attaching formed-wire grips. The adapter bushing can be adjusted to fit ½" to 1" rods and can be removed to fit 1¼" rods. The Pulling Eye is easy to use, and one person can assemble it and hook a hoist to it in minutes. The Pulling Eye working load limit is 6,000 lb (ultimate strength is 18,000 lb).

Catalog No.	Description	Weight (lb)
E96	Pulling Eye with adapter bushing, bolt, and nut	5
C3031661	Adapter bushing, bolt, and nut	1



Pulling Eye

Adapter Bushing

5/8" x 3" Bolt with Nut

# PORTABLE ANCHOR INSTALLER FOR SMALL FOUNDATIONS

## For Installing Torque up to 2,500 ft·lb in Restricted-Access Locations

This compact installer can be used for most shaft-driven guy anchors and smaller screw foundations in areas where large equipment cannot go or is impractical. A hydraulic power supply, such as the CHANCE Portable Hydraulic Power Supply (see page 4A-12), providing 1,900 psi at 8 gpm flow rate is required to deliver the maximum torque output of 2,500 ft·lb.

### Features and Benefits

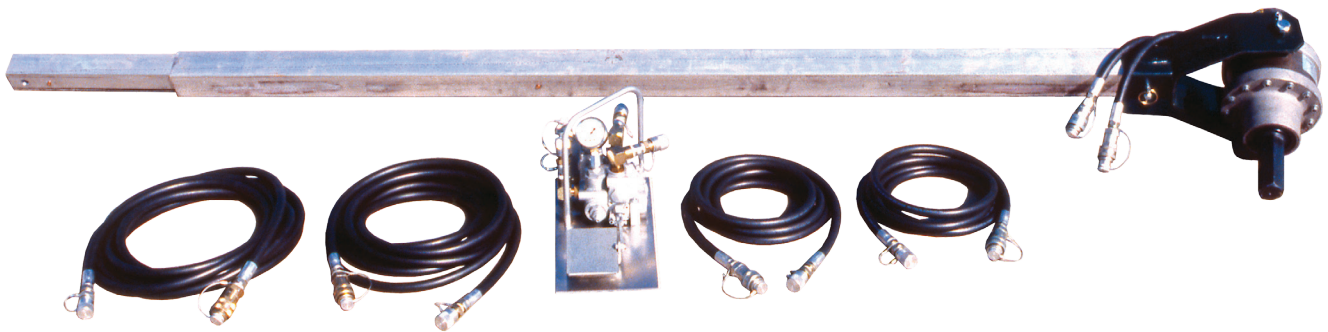
- Torque bar transmits the counter-torque generated by anchor installation from the drive head to the earth or other restraint, freeing the operator for the task of guiding the anchor path
- Torque bar telescopes from 8 feet to 10 feet as needed
- Pivoting drive head enables easy adjustment of installation angle
- Built-in bypass valve limits output to 2,500 ft·lb maximum
- Two-way foot control gives the operator direct control over drive and reverse directions
- Includes two 12.5-ft hoses and two 25-ft hoses with quick couplers for all connections from power supply to foot control to drive head
- Sealed, oil-filled gear case
- 2" hex output shaft - Kelly Bar Adapter 630013 and the appropriate drive tool (each sold separately) are required for anchor installation

### Portable Anchor Installer

Catalog No.	Description	Weight (lb)
C3031244	Complete Portable Anchor Installer kit (drive head, yoke, torque bar, hoses, and foot control)	230

### Replacement Parts

Catalog No.	Description	Weight (lb)
C3031233	2,500 ft·lb drive head assembly	108
C3031247	Foot control assembly	47
C4176121	One 25-ft hose assembly	12
E3030680	Yoke assembly	21
E3031041	Torque bar assembly	30
E3031253	Two 12.5-ft hose assemblies	12



# PORTABLE HYDRAULIC POWER SUPPLY

The Portable Hydraulic Power Supply is designed specifically to complement the Portable Anchor Installer (see page 4A-11). It provides the appropriate hydraulic output to efficiently operate the anchor installer's drive motor. As shown in the photo, the power supply cart includes secure mounting points for storage and transport of the anchor installer drive head and foot control, and the hydraulic hoses can be placed on the cart handles. The drive head, foot control, and hoses are not included with the power supply.

## Features and Benefits

- Cart has large, pneumatic tires to facilitate movement on job sites
- Typical output pressure: 2,500 psi
- Oil flow rate: 8 gpm @ 3,400 rpm
- 5 gallon oil reservoir (shipping cap and vented fill cap included)
- Forced-air oil cooler enables extended use
- 16 hp Briggs and Stratton Industrial/Commercial engine (Model 326437, Type 2527)
- 12 V battery and push-button electric start

Catalog No.	Description	Weight (lb)
C3031201	Portable Hydraulic Power Supply	275



# NOTES

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