http://waterheatertimer.org/Names-of-parts-on-electric-pole.html

# CMVANGE 

 Anchor Tools
## Catalog 4A February 2018

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HOW TO MATCH ANCHORS AND INSTALLING WRENCHES


## STANDARD and HYBRID PISA ${ }^{\oplus}$ Anchor Installing Tools <br> (For installing torques up to $10,000 \mathrm{ft}$-lb.)

A complete tool system consists of: Kelly bar adapter, torque indicator, locking dog assembly and drive-end assembly. For instructions for selecting the proper Kelly bar adapter, see page 4A-5.

## - Convertible to Extension Use

Extension 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.

- Transmits Torque to Anchor Core

The wrench transmits the torque from the Kelly bar of the digger to the hub of the Power-Installed Screw Anchor 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 ( $51 / 4$ " Bolt Circle)

|  | Kelly Bar | Kelly Bar Dimension |  |  | Wt. ea., |
| :--- | :---: | :---: | :---: | :---: | :---: |
| Part No. | Shape | X | Y | Z | lb. |
| 630013 | Hex | $2^{\prime \prime}$ | $5^{\prime \prime}$ | $6^{1} / 8^{\prime \prime}$ | 10 |
| 630011 HD | Hex | $2^{1} / 2^{\prime \prime}$ | $4^{1} / 4^{\prime \prime}$ | $8^{1} / 8^{\prime \prime}$ | 18 |
| 630012 HD | Hex | $2^{5} / 8^{\prime \prime}$ | $4^{1} / 4^{\prime \prime}$ | $8^{1} / 8^{\prime \prime}$ | 18 |
| 630015 | Square | $2^{1} / 2^{\prime \prime}$ | $2^{3} / 4^{\prime \prime}$ | $7^{\prime \prime}$ | $13^{1} / 4$ |
| 630017 | Square | $2^{1} / 2^{\prime \prime}$ | $2^{1} / 2^{\prime \prime}$ | $3^{1 / 1 / 2}$ | 9 |



Kelly Bar Adapter


Kelly Bar

Each STANDARD Kelly bar adapter has six holes for $1 / 2^{\prime \prime}$ bolts on a $51 / 4$ " bolt circle and comes with six $1 / 2^{\prime \prime}$ Grade 5 bolts, nuts, lock washers and bent arm pin with coil lock.

| P0010259P | Hex Bolt |
| :--- | :--- |
| 055371 P | Lockwasher |
| 055635 P | Hex Nut |


| Cat. No. | Description | Wt.ea |
| :--- | :---: | :--- |
| C3030069HD | Complete STANDARD <br> Locking Dog Assembly | 20 lb. |
| C3030070 | Locking Dog Replacement Kit includes <br> parts needed to replace both locking dogs | 4 lb. |
| P1300007P | Replacement Ring Only | 0.10 lb |

STANDARD Locking Dog Assembly has six holes for ${ }^{1} / 2{ }^{\prime \prime}$ bolts on a $5^{1} / 4$ " bolt circle, comes with $\operatorname{six}^{1} / 2^{\prime \prime}$ Grade 5 bolts, nuts and lock washers.

| C1021583 | STANDARD Drive-End Wrench installs $8,000 \mathrm{ft} .-\mathrm{lb}$. (small hub) Tough One ${ }^{\oplus}$ anchors, $10,000 \mathrm{ft}$.-lb. (small hub) Tough One ${ }^{\oplus}$ anchors, $4,000 \mathrm{ft}$.-lb. Standard-Strength PISA anchors, $6,000 \mathrm{ft}$.-lb. Mid-Strength PISA anchors | 57 lb . | $\begin{gathered} 7^{\prime} \\ \text { Long } \end{gathered}$ |
| :---: | :---: | :---: | :---: |
| ${ }^{+} \mathrm{C} 3031064$ | HYBRID Drive-End Wrench installs $10,000 \mathrm{ft}$.-lb. (large hub) Tough $\mathrm{ONE}^{\oplus}$ anchors, 6,000 ft.-lb. PISA 6 anchors, 7,000 ft.-lb. PISA 7anchors | 64 lb . | $\begin{gathered} 7^{\prime} \\ \text { Long } \end{gathered}$ |


| C1021595 | STANDARD Drive-End Wrench installs $8,000 \mathrm{ft} . \mathrm{lb}$. (small hub) Tough $\mathrm{OnE}^{\oplus}$ anchors, $10,000 \mathrm{ft}$.-lb. (small hub) Tough One ${ }^{\oplus}$ anchors, $4,000 \mathrm{ft}$.-lb. Standard-Strength PISA anchors, 6,000 ft.-lb. Mid-Strength PISA anchors | 29 lb. | $\begin{gathered} 3.5^{\prime} \\ \text { Long } \end{gathered}$ |
| :---: | :---: | :---: | :---: |
| ${ }^{+} \mathrm{C} 3031063$ | HYBRID Drive-End Wrench installs $10,000 \mathrm{ft}$.-lb. (large hub) Tough $\mathrm{OnE}^{\oplus}$ anchors, 6,000 ft.-lb. PISA 6 anchors, $7,000 \mathrm{ft} .-\mathrm{lb}$. PISA 7anchors | 28 lb . | $\begin{aligned} & 3.5^{\prime} \\ & \text { Long } \end{aligned}$ |

## Extension Wrench

| 630027 | $3^{1 / 2}$-ft. Extension | 42 lb. |
| :---: | :---: | :---: |
| 630028 | $7-\mathrm{ft}$. Extension | 70 lb |

${ }^{\dagger}$ NOTE: These wrenches will fit $15,000 \mathrm{ft}$-Ib. TOUGH ONE ${ }^{\oplus}$ anchors dimensionally, but . . . MUST NOT be used for TORQUES IN EXCESS of $10,000 \mathrm{ft}$.-lb.! *NOTE: The old-style HYBRID wrenches C3031063 and C3031064, having a collar welded around the drive end, fit only PISA 6 and PISA 7 anchors.



## SCREW ANCHOR DRIVE TOOL STRINGS

## 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 chart 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.

## A Note about Bolt Circles

Chance anchor installing tools are provided with appropriate bolt circles for the expected service. The torque limitations for the three standard bolt circles are give below. Never exceed the rated torque of any Chance installing tool.

| Bolt Circle | Use for Torque up to |
| :---: | :---: |
| (6) $1 / 2$ " Grade 5 bolts on $5^{1} / 4^{\prime \prime}$ Bolt Circle | $10,000 \mathrm{ft}$.-lb. |
| (6) $5 / 8^{\prime \prime}$ Grade 2 bolts on $7 / 8^{\prime \prime}$ " Bolt Circle | $15,000 \mathrm{ft}$.-lb. |
| (12) $5^{5} \mathrm{~s}^{\prime \prime}$ Grade 2 bolts on $7 / \%^{\prime \prime}$ " Bolt Circle | $20,000 \mathrm{ft}$.ll |

Drive Strings
for
PISA ${ }^{\oplus}$ Anchor,
SS Anchor
or
RR Anchor
Installations:


## TOUGH ONE ${ }^{\circledR}$ Anchor Installing Tools

## (For installing torques up to $15,000 \mathrm{ft}$.-lb.)

A complete tool system consists of: Kelly bar adapter, torque indicator, locking dog assembly and drive-end assembly. For instructions for selecting the proper Kelly bar adapter, see page 4A-5.


TOUGH ONE Kelly Bar Adapter with Bent Arm Pin (75/8" Bolt Circle)

| Part No. | Kelly BarShape | Kelly Bar Dimensions |  |  | Weight <br> lb. | 5/8" Gr. 2 <br> Bolts Included | Bent Arm Pin Included |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | X | Y | Z |  |  |  |
| C3030936 | Hex | $2^{1 / 2} 2^{\prime \prime}$ | $3^{7 / 8 "}$ | $8^{1 / 4}{ }^{\prime \prime}$ | 23 | 12 | C3031223 |
| C3030937 | Hex | $2^{5} / 8^{\prime \prime}$ | $37 / 8$ " | $8^{1 / 4} 4^{\prime \prime}$ | 23 | 12 | C3031223 |
| C3030940 | Hex | 3" | $4^{1 / 2}{ }^{\prime \prime}$ | 8" | 27 | 12 | C3031222 |
| C3030955 | Square | $2^{1 / 2} 2^{\prime \prime}$ | $4^{3} / 4^{\prime \prime}$ | 7" | 22 | 12 | C3031227 |
| C3030958 | Square | 3 " | $3^{1 / 2} 2^{\prime \prime} 2^{1} / 16^{\prime \prime}$ | 7" | 23 | 12 | C3031227 |
| C3031571 | Square | $3^{1 / 2} 2^{\prime \prime}$ | $2^{\prime}$ \& 4" | $6^{11 / 16 "}$ | 33 | 12 | C3031227 |

Each TOUGH ONE ${ }^{\oplus}$ Kelly bar adapters has twelve holes for ${ }^{5} / 8^{\prime \prime}$ bolts on a $7^{5} / 8^{\prime \prime}$ bolt circle, comes with twelve ${ }^{5} / 8^{\prime \prime}$ Grade 2 bolts, nuts \& lockwashers and bent arm pin with coil lock.
*Digital Torque Indicator

| Catalog No. | Description | Wt., lb. |
| :---: | :---: | :---: |
| C3031689 | Torque Indicator adaptable to $5^{1} / 4_{4}$ B.C. or $7^{5} / 8_{8}$ " B.C. | 65 |

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


| Hex Bolt | 056653 P |
| :--- | :--- |
| Lockwasher | 055827 P |
| Hex Nut | 055803 P |

TOUGH ONE Locking Dog Assembly

| Catalog No. | Description | Wt., lb. |
| :---: | :---: | :---: |
| C3030981 | Complete TOUGH ONE Locking Dog Assembly | 28 |
| C3031026 | Lncludes all parts less casting, bolts, nuts, washers | 5 |

TOUGH ONE locking dog assembly has twelve holes for ${ }^{5} / 8^{\prime \prime}$ bolts on a $7^{5} / 8^{\prime \prime}$ bolt circle and comes with twelve $5 / 8^{\prime \prime}$ Grade 2 bolts, nuts and lockwashers.

| Hex Bolt | 056653 P |
| :--- | :---: |
| Lockwasher | 055827 P |
| Hex Nut | 055803 P |

TOUGH ONE Drive-End Wrenches

| Catalog No. | Length | Description | Wt., lb. |
| :---: | :---: | :---: | :---: |
| C3030982 | $31 / 2 \mathrm{ft}$. | Installs $15,000 \mathrm{ft} .-\mathrm{lb}$. (large hub) Tough One ${ }^{\oplus}$ Anchors, $10,000 \mathrm{ft} .-\mathrm{lb}$. (large hub) Tough One ${ }^{\oplus}$ and all $1^{1} / 2$ " Core Anchors | 36 |
| C3030983 | 7 ft . |  | 73 |

TOUGH ONE ${ }^{\circledR}$ drive ends are painted with a red band on the bottom.
Drive Wrench

Extension Assemblies for TOUGH ONE Drive-End Wrench

| Catalog No. | Length | Description | Wt., lb. |
| :---: | :---: | :---: | :---: |
| C3030987 | $3^{1 / 2} \mathrm{ft}$. | Extension attaches to drive-end wrench <br> when additional depth is required. | 53 |
| C3030988 | 7 ft. | 89 |  |

For SS and RR Anchor Tool options when using the TOUGH ONE ${ }^{\circledR}$ Drive String System, see page 4A-8.


## ANCHOR INSTALLING TOOL

## Use with STANDARD and TOUGH ONE ${ }^{\oplus}$ Kelly bar adapters, SS, RR and bumper post installing tools

Each Chance plated-steel Bent Arm pin is designed to attach a Kelly bar adapter to a Kelly bar. Also used to secure SS, RR and bumper post anchors to anchor drive tools.

Bent Arm Pins with Coil Locks are included with new tools as required. Order Pins and Coil Locks for existing tools as shown below.

ORDERING INFORMATION

| Kelly Bar <br> Adapter | Bent Arm Pin <br> and Coil Lock <br> Assembly |
| :--- | :---: |
| ${ }^{*} 630010$ | C3031227 |
| ${ }^{*} 630011$ | C3031223 |
| 630011 HD | C3031223 |
| ${ }^{*} 630012$ | C3031223 |
| 630012 HD | C3031223 |
| 630013 | C3031223 |
| 630013 A | C3031223 |
| 630014 | C3031222 |
| 630015 | C3031222 |
| 630016 | C3031227 |
| 630017 | C3031227 |
| C3030936 | C3031223 |
| C3030937 | C3031223 |
| C3030940 | C3031222 |
| C3030955 | C3031227 |
| C3030958 | C3031227 |
| C3031571 | C3031227 |


| SS/RR <br> Tools | Bent Arm Pin <br> and Coil Lock <br> Assembly |
| :--- | :---: |
| 639001 | C3031226 |
| C3030195 | C3031225 |
| C3030201 | C3031224 |
| C3030202 | C3031224 |
| C3030020 | C3031226 |
| T3031403 | C3031225 |
| C3031077 | C3031224 |


| Bumper Post <br> Tools | Bent Arm Pin <br> and Coil Lock <br> Assembly |
| :--- | :---: |
| C3030737 | C3031227 |
| C3030739 | C3031227 |


*Old-style Kelly Bar Adapters, no longer available.


To order Coil Lock only, order Part No. P3031215P.

| Bent Arm Pin and Coil Lock Assembly | Size |
| :---: | :---: |
| C3031226 | 3 x x/8" |
| C3031225 | $3^{1 / 2} 2^{\prime \prime} \mathrm{x}^{3} / 4$ " |
| C3031224 | $4^{1} / 2^{\prime \prime} \times 1{ }^{\prime \prime}$ |
| C3031227 | $5{ }^{\prime \prime} \mathrm{x}^{3} / 4^{\prime \prime}$ |
| C3031223 | $4^{1 / 2} 2^{\prime \prime} \mathrm{x}^{1} / 2^{\prime \prime}$ |
| C3031222 | $5 " \mathrm{x} / 8^{\prime \prime}$ |



## DRIVE TOOLS

## FOR INSTALLING SS OR RR ANCHORS

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

These drive tools require the appropriate Kelly bar adapter, sold separately. Each comes with bolts, nuts and lockwashers.

| Cat. No. | Anchor Family | Bolt Circle | Approx. <br> Wt., lb. |
| :--- | :---: | :---: | :---: |
| 639001 | SS5/SS150/RR <br> Drive Tool | $(6)^{1} / 2^{\prime \prime}$ holes on $5^{1 / 1 "}$ " B.C. | 7 |
| C3030195* | SS175 Drive Tool | $(12)^{5} / 8^{\prime \prime}$ holes on $7^{5} / 8^{\prime \prime}$ B.C. | 18 |
| C3030201* | SS200 Drive Tool | $(12)^{5} / 8^{\prime \prime}$ holes on $7^{5} / 8^{\prime \prime}$ B.C. | 30 |
| C3030202* | SS225 Drive Tool | $(12)^{5} / 8^{\prime \prime}$ holes on $7^{5} / 8^{\prime \prime}$ B.C. | 30 |

*Requires use of T3030166 adapter, and limited to $10,000 \mathrm{ft}$.-lb., when used with STANDARD Kelly bar adapter (with a $5{ }^{1 / 4} 4^{\prime \prime}$ bolt circle).

These tools slide into locking dog adapter and are retained by spring loaded dogs.

| Cat. No. | Anchor Family | Unit fits: | Approx. <br> Wt., lb. |
| :--- | :---: | :--- | :---: |
| C3030020 | SS5/SS150/RR | STANDARD Locking Dog Assembly | 8 |
| C3031035 Drive Tool | Tough OnE ${ }^{\oplus}$ Locking Dog Assembly | 11 |  |
| T3031403 | SS175 Drive Tool | Tough OnE ${ }^{\oplus}$ Locking Dog Assembly | 26 |
| C3031077 | SS200 Drive Tool |  | 23 |

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 bent arm pin and coil lock to attach these tools to an anchor.
These drive tools require the appropriate Kelly bar adapter, sold separately. Each comes with bolts, nuts and lockwashers.

| Cat. No. | Anchor Family | Bolt Circle | Approx. <br> Wt., lb. |
| :--- | :--- | :---: | :---: |
| C3031650 | SS5/SS150 Drive Tool <br> with Locking Dogs | $(6)^{1} / 2^{\prime \prime}$ holes on $5^{1} / 4^{\prime \prime}$ B.C. | 10 |
| C3031645 | SS175 Drive Tool <br> with Locking Dogs | $(12)^{5} / 8^{\prime \prime}$ holes on $7^{5} / 8^{\prime \prime}$ B.C. | 21 |

## TOOL FOR INSTALLING NO-WRENCH ANCHORS AND MANUAL FOUNDATIONS

Especially designed for use with the Chance portable anchor installer. This tool bolts directly to the installer's output flange or Kelly bar adapter having six $1 / 2^{\prime \prime}$ dia. holes on a $5^{1} / 4^{\prime \prime}$ bolt circle. Adjustable pivoting plates accept rods from ${ }^{3} / 4$ " to $1^{1} 14^{\prime \prime}$ diameter.
For manually-installed foundations, eyenut must be temporarily installed for installation. Has four holes on $5^{1} / 4^{\prime \prime}$ bolt circle for attachment. Includes four $1 / 2^{\prime \prime} \times 1^{1} / 2^{\prime \prime}$ bolts, nuts and lockwashers.

| Cat. No. | Weight, lb. |
| :---: | :---: |
| E3030255 | 9 |

## CHANCE TORQUE INDICATORS

## DIGITAL TORQUE INDICATOR

Using the Wireless Chance ${ }^{\circledR}$ 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 (or locking dog assembly). The LCD display is easy to read in full daylight and gives the operator a direct readout of installation torque at all times.

## Features and Benefits

- Measuring torque is the most accurate way to determine the capacity of helical piles and anchors
- Torque is displayed on Base Unit and transmitted via Bluetooth ${ }^{\oplus}$ to Android and iOS phones and smart devices
- Multiple Bluetooth display devices can be linked to Base Unit
- Download free Torque Indicator Remote Pro app from Apple App Store or Google Play Store
- Torque Indicator Remote Pro app allows torque readings to be sent via email to be downloaded
- Certificate of Calibration supplied with each new unit in case
- Operational temperature range: $-30^{\circ}$ to $70^{\circ} \mathrm{C}\left(-22^{\circ}\right.$ to $\left.158^{\circ} \mathrm{F}\right)$
- Measures torque up to $30,000 \mathrm{ft}-\mathrm{lb}$
- Accuracy: $\pm 500 \mathrm{ft}-\mathrm{lb}$ at any reading
- Torque is measured using strain gauges mounted inside the Base Unit.
- No shear pins to replace
- Powered by two standard 9V batteries
- Solid one-piece spool design to withstand most bending loads.
- Top and bottom flange, each provides six holes tapped $1 / 2$ "- 13 on a $5-1 / 4$ " bolt circle and twelve holes tapped $5 / 8^{\prime \prime}-11$ on a $7-5 / 8$ " bolt circle.

| Catalog No. | Description |
| :---: | :---: |
| C3031836 | Torque Indicator Base Unit |



Digital Display


## SHEAR PIN TORQUE LIMITER

 Catalog No. C3030044
## For Installing torques up to $\mathbf{1 0 , 0 0 0} \mathbf{f t}$.-lb.

Offers: Protection for anchors and installing tools by disconnecting the power when the installing torque reaches a preselected level.
Useable in very rocky soil.
Durable - does not require special storage or handling.

Top and bottom each has six holes tapped $1 / 2{ }^{\prime \prime}$ - 13 on a $5^{1} / 4^{\prime \prime}$ bolt circle.

| Catalog Number | Description | Wt., lb. |
| :---: | :--- | :---: |
| C3030044 | Shear Pin Torque Indicator | 54 |
| $* \mathrm{C} 3030045$ | One Carton of Shear Pins (Approx. 1700 pins) | 50 |
| $* \mathrm{~T} 3031420$ | One Box of Shear Pins (Approx. 510 pins) | 15 |

*Each Shear Pin provides 500 ft .-lb. of torque.

## SOIL TEST PROBE



## - Determine soil conditions without taking core samples

The Chance Soil Test Probe is a mechanical instrument which enables the operator to determine the condition of the sub-soil without core samples. A ratchet-handle torque wrench which slides up and down on the shaft is used to install or retract the probe. Torque wrench readings, in inch-pounds, provide a way to measure the consistency of the subsoil. The torque values obtained are translated into soil classifications using the Chance Soil Classification Table (see below) located on the inside flap of the carrying case.

Torque readings are taken at the depth to which an anchor is to be installed, and at least 2 feet above this depth because the average earth consistency 2 to 3 feet above the anchor determines the anchor holding capacity. The probe shaft is marked at 1 -foot intervals permitting soil evaluation at every foot of depth.

The length of the Soil Test Probe (including helix) is 5 feet. Each shaft coupled to the probe provides an additional 5 feet. A durable carrying case protects the equipment when not in use.

## ORDERING INFORMATION

Soil Test Probe 1800 in.-lb. Capacity

| Cat. No. | Description | Length | Weight |
| :---: | :---: | :---: | :---: |
| C3090032 | Probe w/3 5-ft. extensions | $20^{\prime}$ | $21^{1 / 2} \mathrm{lb}$. |

Accessories

| Catalog No. | Description | Weight |
| :---: | :---: | :---: |
| C3090033 | 5-ft. extension only | 3 lb. |


| Class | Common Soil-Type Description | Geological Soil Classification | Probe <br> Values ft.-lb. (NM) | Typical Blow Count "N" per ASTM-D1586 |
| :---: | :---: | :---: | :---: | :---: |
| N.A. | Sound hard rock, unweathered (bedrock) | Granite, Basalt, Massive Limestone | N.A. | N.A. |
| 1 | Very dense and/or cemented sands; coarse gravel and cobbles | Caliche, (Nitrate-bearing gravel/rock), | $\begin{gathered} \text { over 60 } \\ (85-181) \end{gathered}$ | 60-100+ |
| 2 | Dense fine sands; very hard silts and clays (may be preloaded) | Basal till; boulder clay; caliche; weathered laminated rock | $\begin{gathered} \hline \text { over 50 } \\ (68-85) \end{gathered}$ | 45-60 |
| 3 | Dense sands and gravel; hard silts and clays | Glacial till; weathered shales, schist, gneiss and siltstone | $\begin{aligned} & 42-50 \\ & 56-68 \end{aligned}$ | 35-50 |
| 4 | Medium dense sand and gravel; very stiff to hard silts and clays | Glacial till; hardpan; marls | $\begin{gathered} \hline 33-42 \\ (45-56) \end{gathered}$ | 24-40 |
| 5 | Medium dense coarse sands and sandy gravels; stiff to very stiff silts and clays | Saprolites, residual soils | $\begin{gathered} 25-33 \\ (34-45) \end{gathered}$ | 14-25 |
| 6 | Loose to medium dense fine to coarse sands to stiff clays and silts | Dense hydraulic fill; compacted fill; residual soils | $\begin{gathered} 17-25 \\ (23-34) \end{gathered}$ | 7-14 |
| **7 | Loose fine sands; Alluvium; loess; medium - stiff and varied clays; fill | Flood plain soils; lake clays; adobe; gumbo, fill | $\begin{gathered} 8-17 \\ (11-23) \end{gathered}$ | 4-8 |
| **8 | Peat, organic silts; inundated silts, fly ash very loose sands, very soft to soft clays | Miscellaneous fill, swamp marsh | $\begin{aligned} & \text { under } 8 \\ & (0-11) \end{aligned}$ | 0-5 |

Class 1 soils are difficult to probe consistently and the ASTM blow count may be of questionable value.
**It is advisable to install anchors deep enough, by the use of extensions, to penetrate a Class 5 or 6 , underlying the Class 7 or 8 Soils.

BOLT CIRCLE ADAPTERS (For torques up to 10,000 ft.-lb.)
These adapters are used to connect two tools having incompatable bolt circles. The C3030115 is for use between two tools having tapped $5^{1 / 4 "}$ bolt circles.
The T3030166 is for use between a tool having a $5^{1 / 4} 4^{\prime \prime}$ bolt circle and one having a $7^{5} / 8^{\prime \prime}$ bolt circle.
Both are limited to $10,000 \mathrm{ft} .-\mathrm{lb}$.

| C3030115 | Description | Wt., lb. |
| :---: | :---: | :---: |
| T3030166 | Bolt circle adapter with two <br> $1 / 2^{\prime \prime} \times 5^{1} / 4^{\prime \prime}$ bolt circles | 11 |
| T3030166 | Bolt circle adapter with one <br> $1 / 2^{\prime \prime} \times 5^{1 / 4 " ~}$ bolt circle and <br> one $5^{5} / 8^{\prime \prime} \times 7^{5} / 8^{\prime \prime}$ bolt circle | 18 |
| T3030166N | Bolt circle adapter with one <br> $1 / 2^{\prime \prime} \times 5^{1 / 4 " ~ b o l t ~ c i r c l e ~ a n d ~}$ <br> one $5^{5} / 8^{\prime \prime} \times 7^{5} / 8^{\prime \prime}$ bolt circle on one <br> steel plate. Note: Cannot be <br> used with shear pin limiter | 10 |

## EXPANDING \& 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 base casting is attached directly to the fiberglass handle.

| Cat. No. | Description | Length | Weight |
| :---: | :---: | :---: | :---: |
| C3020003 | Expanding \& Tamping Bar | $10^{\prime}$ | 22 lb. |
| C3020004 | Expanding \& Tamping Bar | $12^{\prime}$ | 24 lb. |
|  |  |  |  |
| *E3020001P | Fiberglass Handle | $10^{\prime}$ | 7 lb. |
| *E3020006P $^{\text {Fiberglass Handle }}$ | $12^{\prime}$ | 8 lb. |  |
| P3020002P | Expander and Tamper Head | N/A | 14 lb. |


*Includes plug mix to reset handle.

For working loads to approximately 6,000 pounds (ultimate strength - 18,000 pounds).

| Catalog No. | Description | Weight |
| :---: | :---: | :---: |
| E96 | Pulling Eye, Bolt, Nut | 5 lb. |
| C3031661 | Bolt, Nut, Adapter | 1 lb. |



# Portable Anchor Installers for small foundations 

2,500 ft.-lb. torque capacity hydraulic power drive

## Economical manual operation and portability for remote sites, common anchor installations

For most shaft-driven guy anchors and smaller screw foundations, these compact drivers get into areas where large equipment cannot go or is impractical. Operator does not need to resist the torque generated by anchor installation. Countertorque transmits through a torque bar from the drive head to the earth or other restraint. This frees the operator for the task of guiding the anchor path.

Built-in bypass valve limits output to $2,500-\mathrm{ft}$.-lb. maximum, two-way foot pedal gives operator direct control over drive and reverse directions, hoses (two 12 -ft. and two $25-\mathrm{ft}$.) come with quick couplers for all connections from power supply to foot control to drive head. Pivoting drive-head yoke connects with bent-arm pin to square-tubular torque bar which telescopes from 8 feet to 10 feet as needed.


Catalog No. C3031244
Heavy-Duty Installer requires $1,900 \mathrm{psi}$ at 8 gpm flow rate to deliver $2,500 \mathrm{ft}$.lb. maximum torque.

## 2,500 ft-lb

## Portable Anchor Installers

Heavy Duty - Catalog No. C3031244

| Sealed oil-filled gear case. Single Catalog Number <br> above includes all items below. Each item also may be <br> ordered by separate number. |  |
| :---: | :--- |
| *Hydraulic Control Valve | C3031247 |
| Two 25-ft. Hydraulic Hoses | C4176121 (each) |
| *Hydraulic Drive Head | C3031233 |
| Yoke Assembly | E3030680 |
| *Two 12-ft. Hydraulic Hoses | E3031253 (pair) |
| Square Torque Bar Assembly | E3031041 |

Output Shaft is 2" Hex. - Requires Kelly Bar Adapter 630013 and flanged drive tool (order separately) to install all anchors.

## Optional Hydraulic Power Unit Catalog No. C3031201

For easy wheeling to worksite, hydraulic drive head and foot control secure by rubber strap included to angle braces atop the cart frame and hoses ride on handles.

Cart-mounted on $5 / 8$ "-diameter axle with two $4.80 \times 8$ inflatable (30psi) tires; $271 / 4^{\prime \prime}$ wide $\times 34 \frac{1}{2} 2^{\prime \prime}$ high $\times 36$ " long; shipping weight with oil: 275 lb .
Hydraulic Pump with fan cooling system:
Typical output pressure 2500psi
Pump displacement 8 gpm @ 3400rpm
Reservoir capacity 5 gallons US
(shipping cap and vented fill cap provided)

## Gasoline Engine System:

16hp Briggs \& Stratton
Industrial/Commercial Model 326437, Type 2527
12-Volt pushbutton start, 3600rpm (maximum)


Operating instructions are included with anchor installer and hydraulic power unit.
Drive head and foot control shown in photo are not included with C3031201

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## HபBBEL®문 Power Systems, Inc.

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