

# CHANCE<sup>®</sup>

## Civil Construction

### Installing Tools

### for

## Helical Anchors

## and Piles

 **WARNING**

Do not weld, cut, alter or modify any of the equipment shown in this Bulletin. Doing so will void all warranties and could create hazardous conditions for anyone in the vicinity of the equipment when in use.

**CHANCE**  
Civil Construction

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CHANGING HISTORY

  
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**ISO 9001**  
QMI-SAI Global  
CERT-0018053

# 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-ft.-lb.

maximum, two-way foot pedal gives operator direct control over drive and reverse directions, hoses (two 12-ft. and two 25-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. C303-1032**

Medium-Duty Installer requires 1550 psi at 8 gpm flow rate to deliver 2,500 ft.-lb. maximum torque.



**Catalog No. C303-1244**

Heavy-Duty Installer requires 1,900 psi at 8 gpm flow rate to deliver 2,500 ft.-lb. maximum torque.

# 2,500 ft-lb Portable Anchor Installers Ordering Information

## †Medium Duty — Catalog No. C303-1032

Grease filled gear case. Single Catalog Number above includes all items below. Each item also may be ordered by separate number.

|                             |                  |
|-----------------------------|------------------|
| *Hydraulic Control Valve    | C303-1031        |
| Two 25-ft. Hydraulic Hoses  | C417-6121 (each) |
| *Hydraulic Drive Head       | C303-1180        |
| Yoke Assembly               | E303-0680        |
| *Two 12-ft. Hydraulic Hoses | E303-0876 (pair) |
| Square Torque Bar Assembly  | E303-1041        |

Output shaft is 1½" square socket. Requires C303-1230 and flanged drive tool (order separately) to install anchors other than 1½" square 1¼" round shaft.

\* Note: Hydraulic components are not interchangeable between C303-1032 and C303-1244.

## Heavy Duty — Catalog No. C303-1244

Sealed oil-filled gear case. Single Catalog Number above includes all items below. Each item also may be ordered by separate number.

|                             |                  |
|-----------------------------|------------------|
| *Hydraulic Control Valve    | C303-1247        |
| Two 25-ft. Hydraulic Hoses  | C417-6121 (each) |
| *Hydraulic Drive Head       | C303-1233        |
| Yoke Assembly               | E303-0680        |
| *Two 12-ft. Hydraulic Hoses | E303-1253 (pair) |
| Square Torque Bar Assembly  | E303-1041        |

Output Shaft is 2" Hex. - Requires Kelly Bar Adapter P630013 and flanged drive tool (order separately) to install all anchors.

\* Note: Hydraulic components are not interchangeable between C303-1032 and C303-1244.

### Anchor Drive Tools

See page 8 for details on tools to drive specific anchor types.



†Adapter Tool  
Catalog  
No. C303-1230

†Note that all 5¼" bolt-circle tools may be connected directly to Heavy Duty Portable Anchor Installer Cat. No. C303-1244. †Adapter Tool Cat. No. C303-1230 is required to connect 5¼" bolt-circle tools to Medium Duty Portable Anchor Installer Cat. No. C303-1032. If needed, order Adapter C303-1230 as a separate item.

## Optional Hydraulic Power Unit Catalog No. C303-1201

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 x 8 inflatable (30psi) tires; 27¼" wide x 34½" high x 36" long; shipping weight with oil: 275 lb.

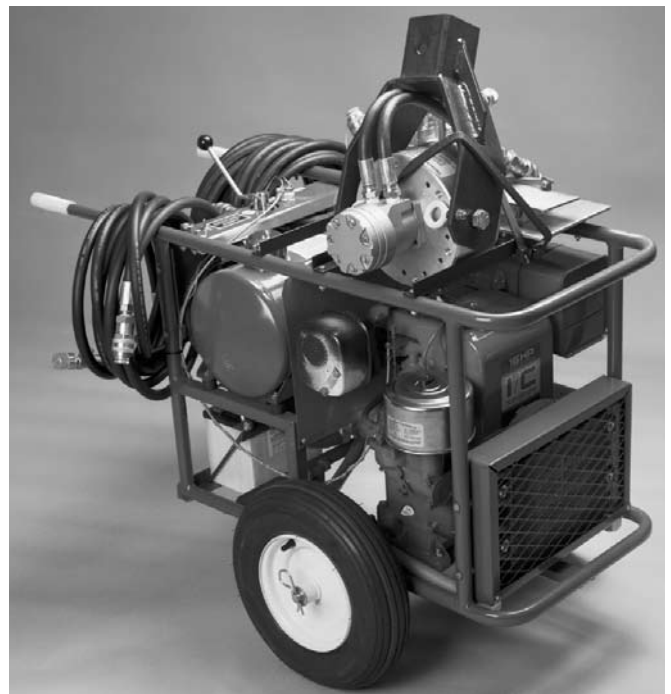
Hydraulic Pump with fan cooling system:

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.



# Anchor/Foundation Drive Heads

- Vehicle Mounted
- Hydraulic Powered
- 3,500, 6,000 & 11,500 ft.-lb. Torque Ratings

Specially suited for vertical installations of screw-type anchors, foundations, and bumper posts.

The drive head comes in two torque-rating ranges. The design also delivers other features for rugged field conditions.

- Precision planetary gears and bearings in oil-filled, sealed gearcase
- Heavy-duty output housing and bearings
- Heavy-duty bail flange mounted to gearcase housing provides balanced load-sharing torque restraint
- Dual-pin mounting provides drive-head positioning for controlled installations
- Drive-head also readily accepts earth augers for hole digging

Hose assemblies are not furnished with drive heads. For hydraulic flow more than 20 gpm, 3/4"-diameter hose is recommended. For flow rates of 20 gpm and below, 1/2" hose may be used. Swivel joint and swivel joint adapter are furnished. Thread size is 1"-11 1/2" NPSM (National Pipe Straight Mechanical).



## Skid-Steer Utility Plate, Bail and Jib Components

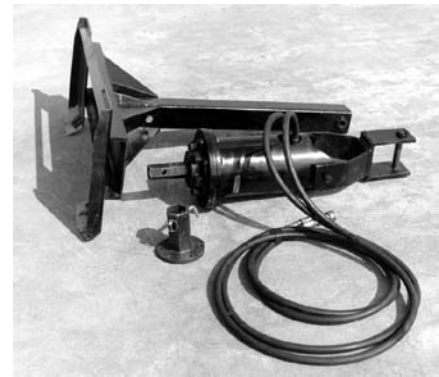
To order, refer to information below and on next page. Specify one each: Drive Head, Utility Plate, Bail & Jib Assembly, and Kelly Bar Adapter.

3,500 and 6,000 ft.-lb. maximum torque

**For Bobcat Skid-Steers ONLY:**

| Catalog No. | Description                                      |
|-------------|--------------------------------------------------|
| C303-0999   | 3,500 ft.-lb. Utility Plate, Bail & Jib Assembly |
| C303-1014   | 6,000 ft.-lb. Utility Plate, Bail & Jib Assembly |

Catalog Numbers at left do not include drive head, hoses or kelly bar adapter as shown at right.



**For Skid-Steers other than Bobcat:**

(for field welding to utility plates on skid-steers)

|           |                                                      |
|-----------|------------------------------------------------------|
| C303-1015 | 3,500 ft.-lb. Bail & Jib Assembly less Utility Plate |
| C303-1016 | 6,000 ft.-lb. Bail & Jib Assembly less Utility Plate |

## Backhoe Mounting Components

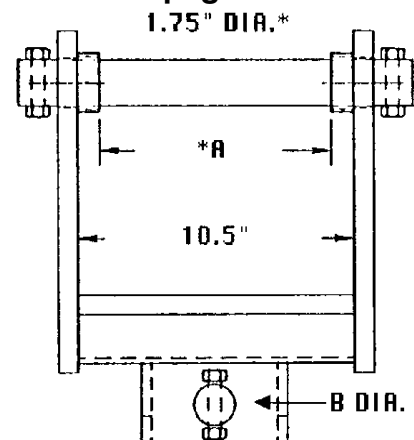
To order, specify components in Typical Tool-String Assemblies on next page.

3,500, 6,000 and 11,500 ft.-lb. maximum torque

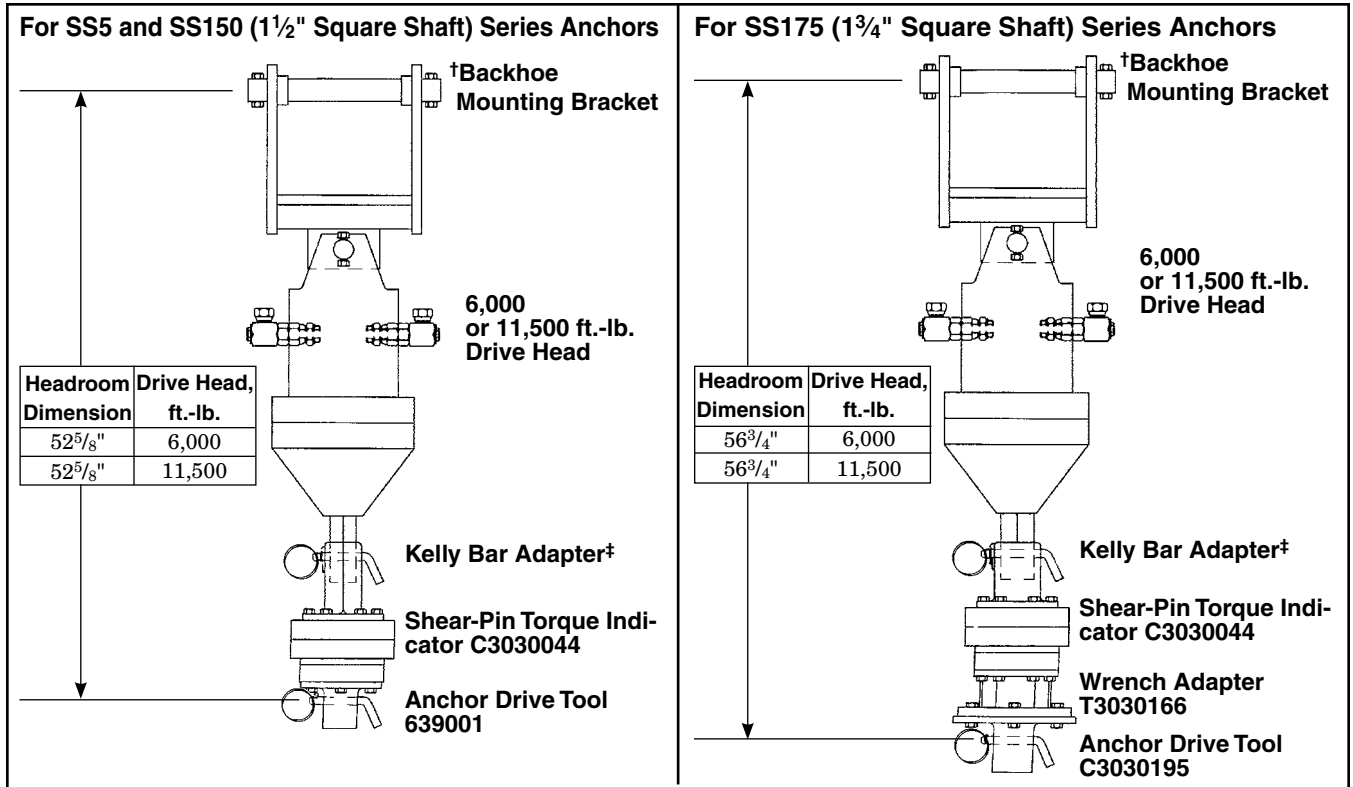
†Backhoe Mounting Brackets

| Dimensions, inches |     | Backhoe Brand Name | Catalog Number | Bracket Description         |
|--------------------|-----|--------------------|----------------|-----------------------------|
| *A                 | B   |                    |                |                             |
| 10.1               | 1.5 | Case               | C303-0969      | 6K & 11.5K ft.-lb. Eskridge |
| 10.1               | 1.0 | Case               | C303-0970      | 3.5K ft.-lb. Eskridge       |
| 7.00               | 1.5 | JCB                | C303-0971      | 6K & 11.5K ft.-lb. Eskridge |
| 7.00               | 1.0 | JCB                | C303-0972      | 3.5K ft.-lb. Eskridge       |
| 8.18               | 1.5 | John Deere         | C303-0973      | 6K & 11.5K ft.-lb. Eskridge |
| 8.18               | 1.0 | John Deere         | C303-0974      | 3.5K ft.-lb. Eskridge       |

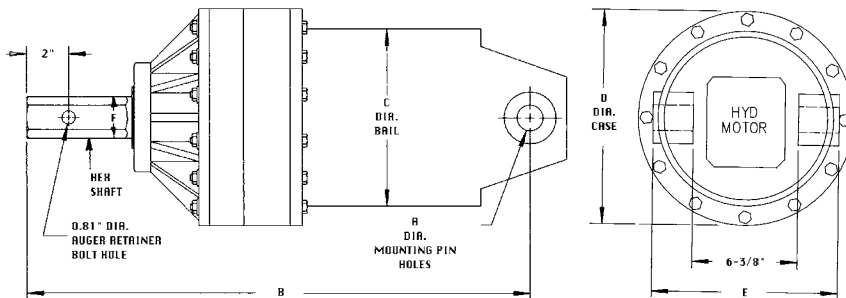
\*Bracket accepts boom up to 10.2" wide (1.75" dia. pin).  
For booms 7" & 8.18" wide, 2 spacer bushings supplied.  
Other bushings available for backhoes not listed.



# Typical Backhoe Tool-Strings

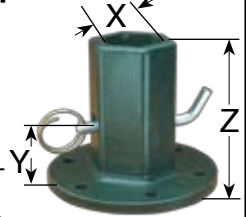


## Anchor/Foundation Drive Heads



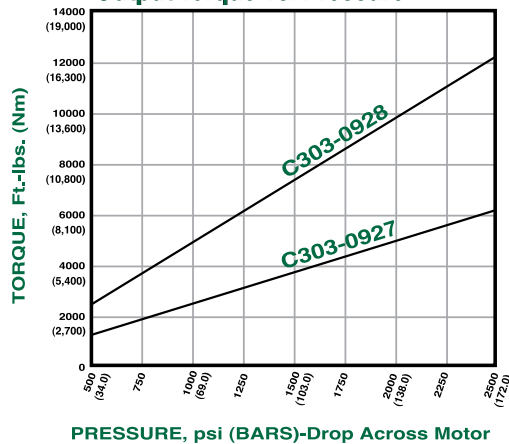
### \*Kelly Bar Adapters

Each of these Kelly Bar Adapters has a 5¼" bolt circle and comes with (6) ½" bolts, nuts and lock-washers and a Bent-Arm Pin with Coil Lock (see page 4A-7).

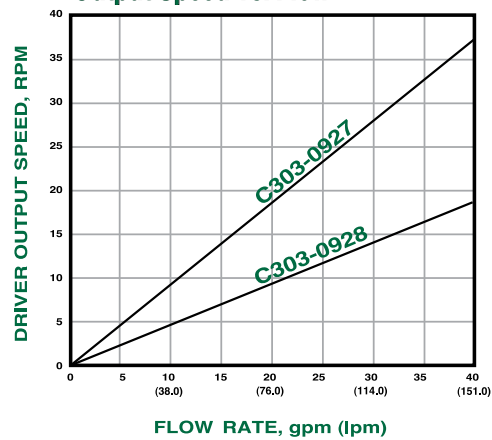


| Part No. | X       | Y                               | Z                               |
|----------|---------|---------------------------------|---------------------------------|
| 630013   | 2" Hex  | 5"                              | 6 <sup>1</sup> / <sub>8</sub> " |
| 630011HD | 2½" Hex | 4 <sup>1</sup> / <sub>4</sub> " | 8 <sup>1</sup> / <sub>8</sub> " |

**Output Torque vs. Pressure**



**Output Speed vs. Flow**



| Catalog Number | Running Torque ft.-lb. | Running Torque Nm | Flow gpm | Speed rpm | Wt. lb. | Wt. kg | Dimensions (in., cm) |      |      |      |      |      |    |      |      |      |     |     |
|----------------|------------------------|-------------------|----------|-----------|---------|--------|----------------------|------|------|------|------|------|----|------|------|------|-----|-----|
|                |                        |                   |          |           |         |        | A                    | B    | C    | D    | E    | F    |    |      |      |      |     |     |
| C3030927       | 6,000 @ 2,400 psi      | 8,100 @ 165 BARS  | 40       | 39        | 246     | 112    | 1.5                  | 3.81 | 29.5 | 74.9 | 10.7 | 27.2 | 13 | 33.0 | 11.4 | 28.9 | 2.5 | 6.4 |
| C3030928       | 11,500 @ 2,400 psi     | 15,600 @ 165 BARS | 40       | 20        | 246     | 112    | 1.5                  | 3.81 | 29.5 | 74.9 | 10.7 | 27.2 | 13 | 33.0 | 11.4 | 28.9 | 2.5 | 6.4 |

# Torque Indicators

## MECHANICAL TORQUE INDICATOR

Catalog No. C303-1340

For installing torques up to 20,000 ft.-lb.

Using the 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 type soil. These tools also help your crew avoid excessive torsional loading which could cause damage to the anchor and/or other anchor tools during installation.

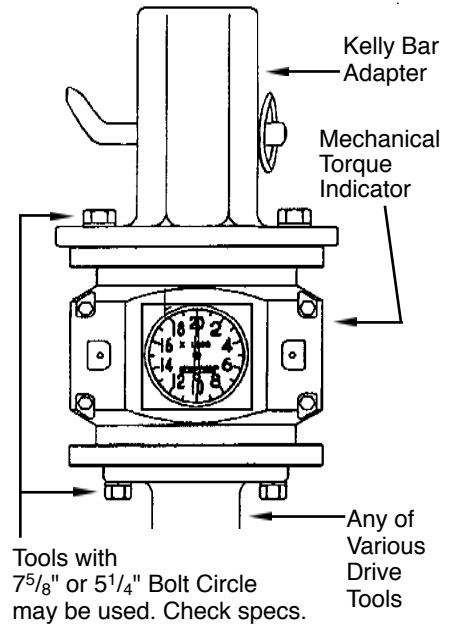
The Indicators are mounted between the Kelly bar adapter and drive tool or locking dog assembly.

### Advantages:

- Easy-to-read dial gives the operator a direct readout of installation torque at all times.
- No Shear pins to replace.



**NOTE: Mechanical Torque Indicator is not recommended in heavy, rocky soil applications or horizontal installations.**



Top and bottom each has six holes tapped  $\frac{1}{2}$ " - 13 on a  $5\frac{1}{4}$ " bolt circle and twelve holes tapped  $\frac{5}{8}$ " - 11 on a  $7\frac{5}{8}$ " bolt circle.

## SHEAR PIN TORQUE LIMITER Catalog No. C303-0044



For installing torques up to 10,000 ft.-lb.

### Advantages:

- 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  $\frac{1}{2}$ " - 13 on a  $5\frac{1}{4}$ " bolt circle.

### Ordering Information

| Catalog No. | Description                              | Weight, lb. |
|-------------|------------------------------------------|-------------|
| C303-0044   | Shear Pin Torque Limiter                 | 54          |
| *C303-0045  | Carton of Shear Pins (Approx. 1700 pins) | 50          |
| *T303-1420  | Box of Shear Pins (Approx. 510 pins)     | 15          |

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

## $5\frac{1}{4}$ " to $7\frac{5}{8}$ " Bolt Circle Adapter

For installing torques up to 10,000 ft.-lb.



This adapter is used to connect two tools having incompatible bolt circles: One with a  $5\frac{1}{4}$ " bolt circle and one with a  $7\frac{5}{8}$ " bolt circle.

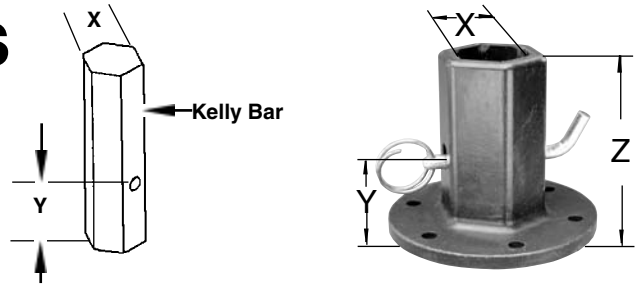
| Catalog No. | Description                                                                                                                        | Weight, lb. |
|-------------|------------------------------------------------------------------------------------------------------------------------------------|-------------|
| T303-0166   | Bolt circle adapter with one $\frac{1}{2}$ " x $5\frac{1}{4}$ " bolt circle and one $\frac{5}{8}$ " x $7\frac{5}{8}$ " bolt circle | 18          |

# Kelly Bar Adapters

Selecting the correct Kelly Bar Adapter is key to building a proper Drive String.

Follow these two easy steps:

- 1) Remove the auger from the driver 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 charts below. The Y dimension on the Kelly Bar Adapter must be equal to or greater than the Y dimension on the intended Kelly Bar.



## A Note about Bolt Circles

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

| Bolt Circle                                   | Maximum Torque |
|-----------------------------------------------|----------------|
| (6) 1/2" Grade 5 bolts on 5 1/4" Bolt Circle  | 10,000 ft.-lb. |
| (12) 5/8" Grade 2 bolts on 7 5/8" Bolt Circle | 20,000 ft.-lb. |

## 5 1/4"-Bolt-Circle Kelly Bar Adapters for 10,000 ft.-lb. Maximum Installing Torque

Each of these Kelly Bar Adapters has six holes for 1/2" bolts on a 5 1/4" bolt circle and comes with six 1/2" Grade 5 bolts, nuts & lockwashers, Bent-Arm Pin with Coil Lock.

| Catalog Number | Kelly Bar Shape | Kelly Bar Dimension |        |        | Weight, lb. |
|----------------|-----------------|---------------------|--------|--------|-------------|
|                |                 | X                   | Y      | Z      |             |
| 630016         | Square          | 2 1/4"              | 2 1/4" | 3 1/2" | 10          |
| 630017         | Square          | 2 1/2"              | 2 1/4" | 3 1/2" | 10          |
| 630013         | Hex             | 2"                  | 5"     | 6 1/8" | 10          |
| 630013A        | Hex             | 2"                  | 3 1/4" | 6 1/8" | 10          |
| 630012HD       | Hex             | 2 5/8"              | 4 1/4" | 8 1/8" | 12          |
| 630011HD       | Hex             | 2 1/2"              | 4 1/4" | 8 1/8" | 12          |

## 7 5/8"-Bolt-Circle Kelly Bar Adapters for 20,000 ft.-lb. Maximum Installing Torque

Each of these Kelly Bar Adapters has twelve holes for 5/8" bolts on a 7 5/8" bolt circle and comes with twelve 5/8" Grade 2 bolts, nuts & lockwashers, Bent-Arm Pin with Coil Lock.

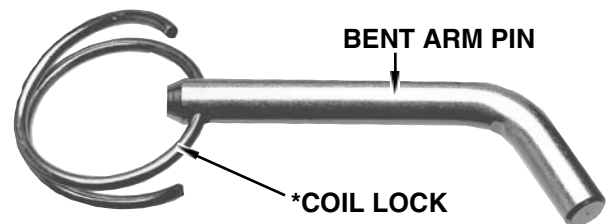
| Catalog Number | Kelly Bar Shape | Kelly Bar Dimension |                  |        | Weight, lb. |
|----------------|-----------------|---------------------|------------------|--------|-------------|
|                |                 | X                   | Y                | Z      |             |
| C303-0936      | Hex             | 2 1/2"              | 4 3/8"           | 8 1/4" | 23          |
| C303-0937      | Hex             | 2 5/8"              | 4 3/8"           | 8 1/4" | 23          |
| C303-0940      | Hex             | 3"                  | 3 1/2"           | 8"     | 27          |
| C303-0955      | Square          | 2 1/2"              | 2 1/4"           | 7"     | 22          |
| C303-0958      | Square          | 3"                  | 3 1/2" & 2 1/16" | 7"     | 23          |

# Bent-Arm Pins

## To retain Kelly Bar Adapters and drive tools for Bumper Posts and SS Anchors

Each Chance plated-steel Bent Arm Pin is designed to attach a Kelly bar adapter to a Kelly bar. The pin also is used to secure SS Anchors and Bumper Posts to their drive tools.

Bent Arm pins are included with new tools as required. Order replacement pins for existing tools as listed at right.



### WARNING:

The Chance Bent Arm Pin and Coil Lock are the only tested and approved means for through-pin attachment of drive tools. Do not use any other means of attachment.

### Dimensions

| Bent Arm Pin and Coil Lock Assembly | Size          |
|-------------------------------------|---------------|
| C303-1226                           | 3" x 5/8"     |
| C303-1225                           | 3 1/2" x 3/4" |
| C303-1227                           | 5" x 3/4"     |
| C303-1223                           | 4 1/2" x 1/2" |
| C303-1222                           | 5" x 5/8"     |



Shown here as used with a Kelly Bar Adapter.

| Kelly Bar Adapter | Bent Arm Pin and Coil Lock Assembly |
|-------------------|-------------------------------------|
| 630011HD          | C303-1223                           |
| 630012HD          | C303-1223                           |
| 630013            | C303-1223                           |
| 630013A           | C303-1223                           |
| 630016            | C303-1223                           |
| 630017            | C303-1227                           |
| C303-0936         | C303-1223                           |
| C303-0937         | C303-1223                           |
| C303-0940         | C303-1222                           |
| C303-0955         | C303-1227                           |
| C303-0958         | C303-1227                           |

| SS Anchor Series Tool | Bent Arm Pin and Coil Lock Assembly |
|-----------------------|-------------------------------------|
| 639001                | C303-1226                           |
| C303-0195             | C303-1225                           |
| C303-0020             | C303-1226                           |

| Bumper Post Tool | Bent Arm Pin and Coil Lock Assembly |
|------------------|-------------------------------------|
| C303-0737        | C303-1227                           |

\*Each new Kelly Bar Adapter or Anchor Drive Tool listed above includes a bent-arm pin with coil lock. For Coil Lock only, order Part No. P303-1215P.

# Anchor Drive Tools

## For SS Helical Pier Anchors

These drive tools require the appropriate Kelly bar adapter (see page 7). Each comes with bolts, nuts and lockwashers and a bent-arm retaining pin with coil lock.



| Catalog Number | SS Anchor Series Tool | Bolt Circle, Holes      | Approx. Weight, lb. |
|----------------|-----------------------|-------------------------|---------------------|
| 639001         | SS5/SS150             | 5 1/4", (6) 1/2" holes  | 7                   |
| C303-0195*     | SS175                 | 7 5/8", (12) 5/8" holes | 18                  |
| C303-0201*     | SS200                 | 7 5/8", (12) 5/8" holes | 30                  |
| C303-0202*     | SS225                 | 7 5/8", (12) 5/8" holes | 30                  |

\*Coupling to a Kelly bar adapter with a 5 1/4" bolt circle requires use of T303-0166 adapter and limits tool's maximum torque rating to 10,000 ft.-lb. (see page 6).

## For Flange-Drive Foundation Anchors

C130-0010 drive tool has a (6) 1/2" tapped holes on a 5 1/4" bolt circle, (6) 1/2" Grade 5 bolts and requires a Kelly bar adapter (see page 7).



**C130-0010**

| Catalog Number | Description                  | Approx. Weight, lb. |
|----------------|------------------------------|---------------------|
| C130-0010      | Kelly Bar Adapter Drive Tool | 10                  |



## For 2" Square LD Foundation Anchors

Connects direct to a Kelly bar adapter with bolts, lockwashers and nuts furnished with Kelly bar adapter (see page 7). Maximum torque rating: 10,000 ft.-lb.

| Catalog No. | Bolt Circle, Holes     | Weight, lb. |
|-------------|------------------------|-------------|
| 639000      | 5 1/4", (6) 1/2" holes | 10          |

## For Bumper Posts

Each comes with (6) 5/8" bolts and a bent-arm retaining pin with coil lock (see page 7).



| Catalog Number | Bolt Circle, Tapped Holes | Approx. Weight, lb. |
|----------------|---------------------------|---------------------|
| C303-0737*     | 5 1/4", (6) 1/2" holes    | 11                  |

\*Coupling to a Kelly bar adapter with a 5 1/4" bolt circle requires use of T303-0166 adapter and limits tool's maximum torque rating to 10,000 ft.-lb. (see page 6).

## For Decorative Lighting Foundation Anchors



This 10"-diameter drive plate fits the 8" bolt circle of decorative lighting foundations. Connects direct to a Kelly bar adapter with (6) 1/2" furnished bolts. Maximum torque rating: 10,000 ft.-lb.

| Catalog Number | Bolt Circle, Tapped Holes | Approx. Weight, lb. |
|----------------|---------------------------|---------------------|
| T303-0247      | 5 1/4", (6) 1/2" holes    | 16                  |

## For HS Helical Pier Anchors

Each comes with bolts, nuts and lockwashers.



| Catalog Number | Bolt Circle, Holes     | Approx. Weight, lb. |
|----------------|------------------------|---------------------|
| C303-0754*     | 7 5/8", (6) 5/8" holes | 27                  |

\*Coupling to a Kelly bar adapter with a 5 1/4" bolt circle requires use of T303-0166 adapter and limits tool's maximum torque rating to 10,000 ft.-lb. (see page 6).

## For 278 Helical Pile Anchors

Each comes with bolts, nuts and lockwashers.



| Catalog Number | Bolt Circle, Holes     | Approx. Weight, lb. |
|----------------|------------------------|---------------------|
| C303-1490*     | 5 1/4", (6) 1/2" holes | 19                  |

\*Maximum torque rating: 10,000 ft.-lb.

## For T/C (Tension/Compression) Helical Pier Anchors

This drive tool has both 5 1/4" and 7 5/8" bolt circles and comes with (6) 5/8" bolts, nuts and lockwashers.



| Catalog Number | Bolt Circle, Holes                                 | Approx. Weight, lb. |
|----------------|----------------------------------------------------|---------------------|
| C303-0594*     | 5 1/4", (6) 1/2" holes and 7 5/8", (12) 5/8" holes | 38                  |

\*Coupling to a Kelly bar adapter with a 5 1/4" bolt circle limits tool's maximum torque rating to 10,000 ft.-lb.

## Universal Tools for STL Foundations

These tools fit STL Foundation Anchors with 9" to 13 1/2" bolt circles.



**C303-0139**



**C303-0684**

C303-0139 connects direct to a Kelly bar adapter with (6) 1/2" furnished bolts. C303-0684 includes (12) 5/8" bolts.

| Catalog Number | Bolt Circle, Holes             | Approx. Weight, lb. |
|----------------|--------------------------------|---------------------|
| C303-0139*     | 5 1/4", (6) 1/2" tapped holes  | 18                  |
| C303-0684†     | 7 5/8", (6) 5/8" drilled holes | 49                  |

\*Maximum torque rating for C303-0139: 10,000 ft.-lb.

†Maximum torque rating for C303-0684: 20,000 ft.-lb. Coupling C303-0684 to a Kelly bar adapter with a 5 1/4" bolt circle requires use of T303-0166 adapter and limits tool's maximum torque rating to 10,000 ft.-lb. (see page 6).