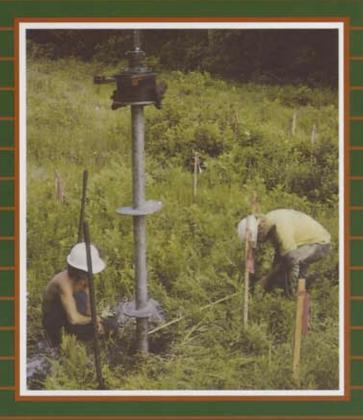
# CHANCE

**Power-Installed Foundation Anchors** 





# INSTANT FOUNDATION System

# Chance® Instant Foundation® System

## POWER-INSTALLED, VERSATILE, ECONOMICAL

Over 90 years of research, development and testing have advanced our Instant Foundation® System to its present mature stage. Compared to traditional methods, the Instant Foundation System offers attractive benefits in the conservation of labor, materials, equipment and, especially, time.

Power-installed foundation anchors have been proved in thousands of installations throughout the world. Chance engineers have installed, tested and retrieved countless foundation anchors to confirm performance and durability. The amount of torsional force required to install a foundation anchor relates to its installed ultimate capacity. This means that holding strengths are predictable in most soils by choosing a foundation anchor based on soil data and by measuring torque during installation.

A typical Instant Foundation anchor can be installed in minutes using standard equipment. The superstructure can be mounted immediately – no waiting for concrete to cure. Chance foundation anchors can be installed in all weather conditions, thus eliminating weather-related delays. They can function as permanent installations or serve as temporary foundations. They can be easily retrieved and reused.

The Chance Instant Foundation System includes a broad range of foundation anchors with various attachments for field adjustments. Chance support services include analysis of soil boring data, job-specific foundation anchor recommendations.

personnel training videos and hands-on demonstrations.



Non-extendable foundation

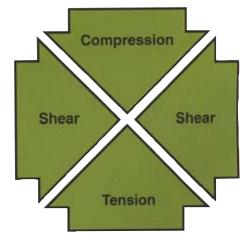


Extendable foundation

#### Advantages of Instant Foundation® Anchors

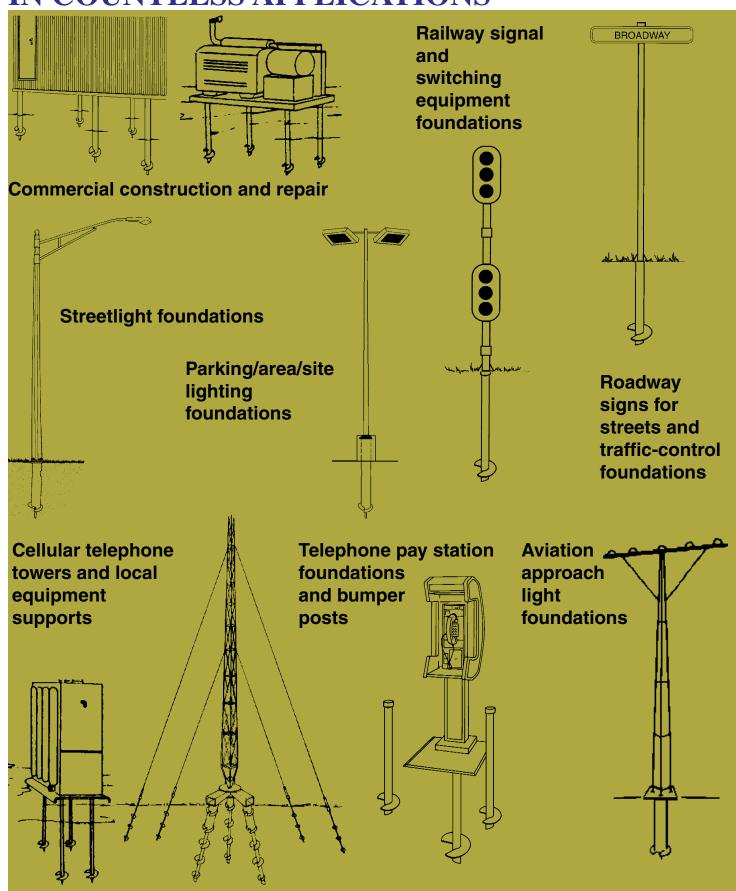
- Capacity proportional to installing torque
- One trip convenience
  No advance site preparation
  No concrete required
- Clean. No excavation or spoils removal
- Reusable
- Easy to transport to job site
- Convenient storage
- No expensive anchor bolts
- Install through macadam
- Available from supplier stock
- Install with available equipment
- Clean. No excavation or spoils removal
- Ideal for areas with limited access

# Overcome the stresses of tension, compression and shear



Chance® Instant Foundation® System anchors install where and when you want them . . . quickly, economically and dependably.

## SAVE TIME AND MONEY IN COUNTLESS APPLICATIONS



# NON-EXTENDABLE FOUNDATIONS FOR SITE LIGHTING OR ANY POLE SUPPORT

To help you determine the type and size of power-installed foundation for your requirements, furnish the following data to your Chance representative:

- 1. Complete the form on the facing page. Make copies as needed for separate applications.
- 2. Refer to the soil classification chart below and/or furnish boring logs/report information if available.
- Chance applications engineers then can match a foundation to meet your performance criteria with computer-assisted design capabilities through interactive software programs.

#### SOIL CLASSIFICATION DATA

Class	Common Soil-Type Description	Geological Soil Classification	Probe Values inlbs. (Nm)	Typical Blow Count "N" per ASTM-D1586
0	Sound hard rock, unweathered	Granite, Basalt, Massive Limestone	N.A.	N.A.
1	Very dense and/or cemented sands; coarse gravel and cobbles	Caliche, (Nitrate-bearing gravel/rock),	750-1600 (90-208)	60-100+
2	Dense fine sand; very hard silts and clays (may be preloaded)	Basal till; boulder clay; caliche; weathered laminated rock	600-750 (78-98)	45-60
3	Dense clays, sands and gravel; hard silts and clays	Glacial till; weathered shales, schist, gneiss and siltstone	500-600 65-78	35-50
4	Medium dense sandy gravel; very stiff to hard silts and clays	Glacial till; hardpan; marls	400-500 (52-65)	24-40
5	Medium dense coarse sand and sandy gravels; stiff to very stiff silts and clays	Saprolites, residual soils	300-400 (39-52)	14-25
6	Loose to medium dense fine to coarse sand; firm to stiff clays and silts	Dense hydraulic fill; compacted fill; residual soils	200-300 (26-39)	7-14
**7	Loose fine sand; Alluvium; loess; soft-firm clays; varied clays; fill	Flood plain soils; lake clays; adobe; gumbo, fill	100-200 (13-26)	4-8
**8	Peat, organic silts; inundated silts, fly ash	Miscellaneous fill, swamp marsh	less than 100 (0-13)	0-5

Class 1 soils are difficult to probe consistently and the ASTM blow count may be of questionable value.

# INSTALLATION OF CHANCE FOUNDATIONS

digger/derrick truck.

Unloading foundation from Attaching drive tool and kelly lation . . . point of foundation checked as the foundation is bar assembly to foundation is inserted into the ground.

Initial phase of actual instal- Plumbness is frequently installed.









<sup>\*\*</sup>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.

#### POLE LOAD DETERMINATION DATA (Based on 2001 AASHTO Specification)

NOTE: This worksheet is available on request in full-page format as Chance Bulletin No. 02-0601. Following data is required to determine street light structure loads.

	Circle appropriate i	units of measure:	11. Minimum Design Life	
1.	Luminaire Mounting Height	(m or ft)	(Circle choice) <u>10 25 50</u> (yrs)	
2.	Height of Pole	(m or ft)	Design life default is 25 yrs. See Table 3-3 AASHTO	
3.	Outside Diameter of Pole Top	(cm or in)	Spec, 4th Edition, 2001, below.	
4.	Outside Diameter of Pole Bottom	(cm or in)	12. Number of Arms	
5.	Arm Length	(m or ft)	13. Number of Luminaires	
6.	Arm Tip Outside Diameter	(cm or in)	14. Pole Shape (Enter choice from	
7.	Arm Bottom Outside Diameter	(cm or in)	list below)	
8.	Luminaire Weight	(kg or lb)	15. Arm Shape (Enter choice from	
9.	Luminaire EPA (projected area x Cd)	(sq m or sq ft)	list below)	
10.	Basic Wind Speed	(km/hr or mph)	16. Is this Pole in Alaska? (yes or no)	
1	= Cylindrical 3 = Hexdecagon	al (16 sides)	5 = Octagonal (8 sides) 7 = Diamond	
2	= Flat 4 = Dodecagona	al (12 sides)	6 = Square (4 sides)	
17.	Anchor Bolt Diameter	(cm or in)	19. Soil Conditions:	
18.	Bolt Circle Diameter	(cm or in)		

Please provide any soil date available.

the only other tool required. It is used to check the plumb-

ness of the foundation as it is installed. Power-installed

foundations are installed directly into the earth with the

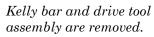
foundation displacing the soil outwardly, compacting the soil around the shaft. This improves the soil shear strength

### **Table 3-3 Recommended Minimum Design Life**

Reproduced from AASHTO Specification, 4th Edition, 2001					
Design Life	Structure Type				
50 years	<ul> <li>Luminaire support structures exceeding 15m (49.2 ft.) in height</li> <li>Overhead sign structues</li> </ul>				
25 years	- Luminaire support structures less than 15m (49.2 ft.) in height - Traffic signal structures				
10 years	- Roadside sign structuures				

A digger-derrick with a conventional kelly bar is used to install the foundation. The installing tool consists of a kelly bar adapter fastened to a drive plate with multiple hole spacing to accommodate several different bolt circles. The drive plate is then attached to the foundation base plate using the mounting bolts. A standard carpenter's level or plumb bob is

Foundation installation nears completion.





Base of streetlight standard is attached to the foundation. streetlight standard.

and its overturning resistance.



Completing installation of



# NON-EXTENDABLE FOUNDATIONS

#### **FOR DEPTHS TO 10-FEET**

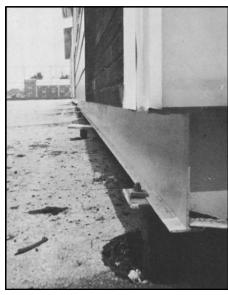
A typical non-extendable foundation installation can be made in 10 to 20 minutes using conventional rotary equipment. Torque capacities vary from 10,000 to 25,000 foot-pounds depending on diameter of foundations. Once the foundation is installed, load can be applied immediately. The geotechnical staff of Chance can provide design assistance for a foundation anchor system based on your furnished subsurface information and loading requirements. Soil parameters usually dictate the number of foundation anchors to support a given load.



The large-diameter helix on the foundation usually provides sufficient compression-load capacity and standard base-plate bolt patterns accommodate most attachments. Custom-made patterns can be made to meet specific needs.



Compression-load capacities of non-extendable foundations average 20,000 pounds. Local soil conditions govern foundation capacity. The lateralload capacity of an individual element is a function of the pipe length, diameter and soil strength properties.



# NON-EXTENDABLE FOUNDATIONS FOR MANY APPLICATIONS

All instant foundations have hot-dip galvanized, corrosion resistant finishes.

Power-installed foundations are furnished in two basic styles: Variable and Fixed bolt circle base plates. Slipbase design is optional. Bolts, nuts and washers included. Can be installed through macadam (blacktop) surfaces. Rated to 25,000 ft.-lbs. of torque. Bolt retaining washers for the slotted baseplate are available.

Catalog No.	Bolt Circle	Helix Dia.	Shaft O.D.	Shaft Length	Std. Pkg.
C11232JG4TL	111/2"	12"	6 <sup>5</sup> / <sub>8</sub> "	5'	1
C11232JG4VL	9" - 14"	12"	6 <sup>5</sup> / <sub>8</sub> "	5'	1
C11242NG4TK	11"	14"	8 <sup>5</sup> / <sub>8</sub> "	5'	1
C11242NG4TL	111/2"	14"	8 <sup>5</sup> / <sub>8</sub> "	5'	1
C11242NG4TM	12"	14"	8 <sup>5</sup> / <sub>8</sub> "	5'	1
C11242NG4TU	15"	14"	8 <sup>5</sup> / <sub>8</sub> "	5'	1
C11242NG4VP	11" -17"	14"	8 <sup>5</sup> / <sub>8</sub> "	5'	1
C11252SG4TU	15"	16"	103/4"	5"	1

Consult factory for additional shaft lengths or bolt circle diameters.



Round baseplate



Variable bolt circle



Fixed bolt circle

These power-installed steel foundations are available with 3- or 4-hole variable bolt circle base plates. Bolts and nuts are furnished. Can be installed through macadam. Rated 8,000 ft.-lbs. of torque.

Catalog	Bolt	Helix	Shaft	Shaft	Std.
No.	Circle	Dia.	O.D.	Length	Pkg.
T112-0142	5"-8" 3 bolt	12"	31/2"	5'	1
T112-0143	5"-8 <sup>1</sup> / <sub>2</sub> " 4 bolt	12"	31/2"	5'	1
T112-0338*	5" -8" 4 bolt	10"	4"	4'-8"	1
T112-0352*	5" -8" 3 bolt	10"	4"	4'-8"	1

<sup>\*</sup> Order hardware separately.



3-bolt circle



4-bolt circle



#### FLANGE DRIVE **FOUNDATIONS**

Power-installed light duty flange drive foundations have shaft sizes of 2 inches and lengths of 51 inches or 69 inches. Choice of 8-inch and 10-inch helices. Rated 4,000 ft.-lbs. of torque.

	Helix		Shaft	Std.
Catalog No.	Dia.	Shaft	Length	Pkg.
E107-0158	8"	2 %"	51"	3
E107-0397	10"	2 %"	69"	3

#### **EXTENSION SECTIONS**

Extension sections for flange-drive foundations provide additional depth or height when desired. Bolts and nuts included.

Catalog No.	Shaft	Shaft Length	Std Pkg
C107-0174	2 3/8"	30"	30

#### **SQUARE** DRIVE **FOUNDATIONS**

Power-installed square drive foundations have 2-inch square heads that are threaded throughout to accept the threaded accessories below.

Catalog No.	Helix Dia.	Shaft	Shaft Length	Max Installation Torque	Std. Pkg.
C107-0394	8*	2 3/8"	89*	4,000 IIlbs.	- 1
C107-0395	10"	2 3/8"	69"	4,000 ftlbs.	1

#### MANUALLY-INSTALLED **FOUNDATIONS**

Manually-installed foundations are designed to be installed with standard hand tools such as ratchet wrench with deep socket. Available with accessory leveling pad, E107-0188.

	Helix:	Shaft	Shaft	Std
Catalog No.	Dia.	Dia	Length	Pkg.
C107-0048	45	3/4"	35"	7
C107-0190	4"	3/4"	35"	



Accessories square drive foundations

Straight Stud E211-0037



**Streetlight Foundations** 

Catalog   Length   Base Plate   Mumber   Celebra   Catalogh   Ca				Juce	iligili i v	ounda				
CT112-0265 4 1.12 11.5 T 3.x12 10 1.225 12 126 1712-0267 4 5.x18.625 13.012 17 3.x12 10 1.225 12 126 1712-0267 4 5.x18.625 13.012 11 T 3.x12 10 1.25 11 1 T 3.x12 10 1.25 11 1 T 2.x18.61 11 T 2.x18.6										
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8" diameter, Variable Bolt Circle  CT112-0444	CT112-0530	5	1 x 15.75	15	T	2.5 x 12	18	4'1" x 8" Stud		l
CT112-0444         5         1 x 19.5         12-16         S         3 x 6         18         .75 x 3.5 Carriage         12         150           C11242NG4VP         5         1 x 15.75         11-17         S         2.5 x 12         12         1 x 4 Carriage         14         172           CT112-0452         5         1 x 15         11-15         S         2.5 x 12         12         1 x 4 Carriage         14         172           CT112-0426         5         1 x 15         11-17         S         2.5 x 12         12         1 x 4 Carriage         14         163           CT112-0426         6         1 x 15.75         11-17         S         2.5 x 18         18         1 x 4 Carriage         14         163           CT112-0426         6         1 x 15.75         15         S         2.5 x 18         18         1 x 4 Carriage         14         194           CT112-0424         7         1 x 15.75         15         S         2.5 x 12         12         1 x 4 Carriage         14         247           CT112-0394         5         1 x 15.75         11-17         S         2.5 x 12         12         1 x 4 Carriage         14         185           CT	CT112-0212	5	1 x 12	11	Т	3 x 12	12	4'1" x 2.5 Machine	plate	l
CT112-0444         5         1 x 19.5         12-16         S         3 x 6         18         .75 x 3.5 Carriage         12         150           C11242NG4VP         5         1 x 15.75         11-17         S         2.5 x 12         12         1 x 4 Carriage         14         172           CT112-0452         5         1 x 15         11-15         S         2.5 x 12         12         1 x 4 Carriage         14         172           CT112-0426         5         1 x 15         11-17         S         2.5 x 12         12         1 x 4 Carriage         14         163           CT112-0426         6         1 x 15.75         11-17         S         2.5 x 18         18         1 x 4 Carriage         14         163           CT112-0426         6         1 x 15.75         15         S         2.5 x 18         18         1 x 4 Carriage         14         194           CT112-0424         7         1 x 15.75         15         S         2.5 x 12         12         1 x 4 Carriage         14         247           CT112-0394         5         1 x 15.75         11-17         S         2.5 x 12         12         1 x 4 Carriage         14         185           CT	8" diameter, Va	ariable Bol	Circle		•					
CT112-0355		5		12-16		3 x 6	18		12	150
CT112-0462         5         1 x 15         11-15         S         2 x 6         18         1 x 4 H.H.         14         175           CT112-0271         5         1 x 12         8.5 · 14         S         2.5 x 12         12         1 x 4 Carriage         14         193           CT112-0426         6         1 x 15.75         11 · 17         S         2.5 x 18         18         1 x 4 Carriage         14         194           CT112-0424         7         1 x 15.75         15         S         2.5 x 18         18         1 x 4 Carriage         14         247           1) C112420G4VP         7         1 x 15.75         11 · 17         S         2.5 x 12         12         1 x 4 Carriage         14         194           C112-0394         5         1 x 15.75         11 · 17         S         2.5 x 12         12         1 x 4 Carriage         14         185           C112-0394         5         1 x 15.75         11 · 17         S         2.5 x 12         12         4"" x 4 Carriage         14         172           CT112-0353         6         1 x 14         11 · 14         S         2.5 x 12         12         1 x 2.5 H.H.         16         12	C11242NG4VP		1 x 15.75	11-17		2.5 x 12		1 x 4 Carriage	14	
CT112-0271         5         1 x 12         8.5 - 14         S         2.5 x 12         12         1 x 4 Carriage         14         163           CT112-0426         6         1 x 15.75         11 - 17         S         2.5 x 18         18         1 x 4 Carriage         14         194           CT112-0424         7         1 x 15.75         11 - 17         S         2.5 x 12         12         1 x 4 Carriage         14         185           CT112-0394         5         1 x 15.75         11 - 17         S         2.5 x 12         12         1 x 4 Carriage         14         185           CT112-0394         5         1 x 15.75         11 - 17         S         2.5 x 12         12         4"" x 4 Carriage         14         185           CT112-0393         6         1 x 14         11 - 14         S         2.5 x 12         24         4"" x 4" Carriage         14         172           CT112-0394         5         1.25 x 15         15         T         2.5 x 12         24         4"" x 4" Carriage         14         172           CT112-0284         6         1.25 x 15         15         T         2.5 x 12         12         1 x 2.5 H.H.         16	CT112-0355	-	1 x 15.75			2.5 x 12	12		14	172
CT112-0426         6         1 x 15.75         11 - 17         S         2.5 x 18         18         1 x 4 Carriage         14         194           CT112-0424         7         1 x 15.75         15         S         2.5 x 18         18         1 x 4 Carriage         14         247           I) C112420G4VP         7         1 x 15.75         11 - 17         S         2.5 x 12         12         1 x 4 Carriage         14         185           CT112-0394         5         1 x 15.75         11 - 17         S         2.5 x 12         12         4'1" x 4 Carriage         14         185           CT112-0517         5         1 x 15.75         11 - 17         S         2.5 x 12         12         4'1" x 4 Carriage         14         172           CT112-0517         5         1 x 15.75         11 - 17         S         2.5 x 12         24         4'1" x 4 Carriage         14         172           CT12-0517         5         1 x 15.75         11 - 17         S         2.5 x 12         12         4'1" x 4 Carriage         14         172           CT12-0517         5         1 x 15.75         11 - 17         S         2.5 x 12         12         4 x 12 <t< td=""><td></td><td></td><td></td><td></td><td>S</td><td></td><td></td><td></td><td>1</td><td></td></t<>					S				1	
CT112-0424         7         1 x 15.75         15         S         2.5 x 18         18         1 x 4 Carriage         14         247           1) C112420G4VP         7         1 x 15.75         11 - 17         S         2.5 x 12         12         1 x 4 Carriage         14         185           CT112-0394         5         1 x 15.75         11 - 17         S         2.5 x 12         12         4'1" x 4 Carriage         14         172         14         172         17         S         2.5 x 12         12         4'1" x 4 Carriage         14         172         14         172         17         S         2.5 x 12         24         4'1" x 4 Carriage         14         172         17         S         2.5 x 12         24         4'1" x 4 Carriage         14         172         17         17         S         2.5 x 12         24         4'1" x 4 Carriage         14         172         17         17         17         18         2.5 x 12         24         4'1" x 4 Carriage         14         172         17         17         17         17         18         18         18         18         18         18         18         18         18         18         18         18         18 </td <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>•</td> <td>1</td> <td></td>								•	1	
1) C11242QG4VP								•	1	-
CT112-0394         5         1 x 15.75         11 - 17         S         2.5 x 12         12         4'1" x 4 Carriage         14         172         14         172         15         1 x 15.75         11 - 17         S         2.5 x 12         24         4'1" x 4 Carriage         14         172         172         172         173         174         172         174         172         174         174         174         175         184         172         174         174         174         174         175         184         175         174         175         184         175         174         175         184         175         184         175         184         175         184         175         184					S				1	
CT112-0517 CT112-0353         5									1	185
CT112-0353         6         1 x 14         11 - 14         S         2 x 6         12         4'1" x 4 Carriage         14         194           10" diameter           C11252SG4TM         5         1.25 x 15         15         T         2.5 x 12         12         1 x 2.5 H.H.         16         218           CT112-0284         6         1.25 x 15         15         T         2.5 x 12         24         1 x 3.5 H.H.         16         278           CT112-0510         6         1.25 x 15         15         T         2.5 x 12         12         1 x 5 Stud         16         267           CT112-0463         7         1.25 x 15         15         T         2.5 x 12         12         1 x 5 Stud         16         267           CT112-0463         7         1.25 x 15         15         D         3.5 x 36         —         1 x 5.5 H.H.         16         370           CT112-0200         7         1.25 x 15         15         D         2 x 6         18         1.25 x 4 H.H.         16         358           CT112-0496         8         1.25 x 17         15-17         S         2 x 12         18         4'1.25" x 4 Machine         4 x 12									1	470
10" diameter									I	
C11252SG4TM         5         1.25 x 15         15         T         2.5 x 12         12         1 x 2.5 H.H.         16         218           CT112-0284         6         1.25 x 15         15         T         2.5 x 12         24         1 x 3.5 H.H.         16         278           CT112-0310         6         1.25 x 15         15         T         2.5 x 12         12         1 x 5.5 H.H.         16         278           CT112-0463         7         1.25 x 17         15-17         S         2 x 6         18         1.25 x 4 H.H.         16         370           CT112-0200         7         1.25 x 15         15         D         3.5 x 36         —         1 x 5.5 H.H.         16         370           CT112-0325         7         1.625 x 19         13.5         D         2 x 6         18         1.25 x 4 H.H.         16         375           T112-0496         8         1.25 x 17         15-17         S         2 x 12         18         4'1.25" x 4 Machine         4 x 12           CT112-0201         10         1.25 x 15         15         D         3.5 x 36         —         1 x 8 Stud1 x 8 Stud         16         450           CT112-0143		l p	I X 14	11 - 14	٥	2 X O	12	4 i x 4 Carriage	14	194
CT112-0284         6         1.25 x 15         15         T         2.5 x 12         24         1 x 3.5 H.H.         16         278           CT112-0510         6         1.25 x 15         15         T         2.5 x 12         12         1 x 5 Stud         16         267           CT112-0463         7         1.25 x 17         15-17         S         2 x 6         18         1.25 x 4 H.H.         16         370           CT112-0200         7         1.25 x 15         15         D         3.5 x 36         —         1 x 5.5 H.H.         16         358           CT112-0325         7         1.625 x 19         13.5         D         2 x 6         18         1.25 x 4 H.H.         16         358           CT112-0496         8         1.25 x 17         15-17         S         2 x 12         18         4'1.25" x 4 Machine         4 x 12           CT112-0496         8         1.25 x 15         15         D         3.5 x 36         —         1 x 8 Stud1 x 8 Stud         46         450           CT112-0143         5         .75 x 8 x 8 sq         5-8         S         1.25 dia. hole         12         .75 x 3.5 Carriage         12         75         275 x 3.5 Carriage			1 40545	4-		1 05-40	1 40	1 405	ا ۱۰	040
CT112-0510         6         1.25 x 15         15         T         2.5 x 12         12         1 x 5 Stud         16         267           CT112-0463         7         1.25 x 17         15-17         S         2 x 6         18         1.25 x 4 H.H.         16         370           CT112-0200         7         1.25 x 15         15         D         3.5 x 36         —         1 x 5.5 H.H.         16         358           CT112-0325         7         1.625 x 19         13.5         D         2 x 6         18         1.25 x 4 H.H.         16         375           T112-0496         8         1.25 x 17         15-17         S         2 x 12         18         4'1.25" x 4 Machine         4 x 12           CT112-0201         10         1.25 x 15         15         D         3.5 x 36         —         1 x 8 Stud1 x 8 Stud         16         375           CT112-0143         5         .75 x 8 x 8 sq         5-8         S         1.25 dia. hole         12         .75 x 3.5 Carriage         12         71           CT112-0142         5         .75 x 10 x 10 sq         5-8         S         1.25 dia. hole         12         .75 x 3.5 Carriage         12         80 <tr< td=""><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td>I</td><td></td></tr<>									I	
CT112-0463         7         1.25 x 17         15-17         S         2 x 6         18         1.25 x 4 H.H.         16         370           CT112-0200         7         1.25 x 15         15         D         3.5 x 36         —         1 x 5.5 H.H.         16         358           CT112-0325         7         1.625 x 19         13.5         D         2 x 6         18         1.25 x 4 H.H.         16         375           T112-0496         8         1.25 x 17         15-17         S         2 x 12         18         4'1.25" x 4 Machine         4 x 12           CT112-0201         10         1.25 x 15         15         D         3.5 x 36         —         1 x 8 Stud1 x 8 Stud         16         450           CT112-0143         5         .75 x 8 x 8 sq         5-8         S         1.25 dia. hole         12         .75 x 3.5 Carriage         12         71           CT112-0142         5         .75 x 10 x 10 sq         5-8         S         1.25 dia. hole         12         .75 x 3.5 Carriage         12         80           CT112-0302         5'4.5"         .75 x 12         5-10         S         1.25 dia. hole         12         5/8 x 2.5 Carriage         12         80 <td></td>										
CT112-0200         7         1.25 x 15         15         D         3.5 x 36         —         1 x 5.5 H.H.         16         358           CT112-0325         7         1.625 x 19         13.5         D         2 x 6         18         1.25 x 4 H.H.         16         375           T112-0496         8         1.25 x 17         15-17         S         2 x 12         18         4'1.25" x 4 Machine         4 x 12           CT112-0201         10         1.25 x 15         15         D         3.5 x 36         —         1 x 8 Stud1 x 8 Stud         16         450           CT112-0143         5         .75 x 8 x 8 sq         5-8         S         1.25 dia. hole         12         .75 x 3.5 Carriage         12         71           CT112-0142         5         .75 x 10 x 10 sq         5-8         S         1.25 dia. hole         12         .75 x 3.5 Carriage         12         80           CT112-0302         5'4.5"         .75 x 12         5-10         S         1.25 dia. hole         12         5/8 x 2.5 Carriage         12         80           CT112-0338         4'8"         .75 x 8.75         8         S         1.5 x 3         18         *CT112-0393         10										
CT112-0325         7         1.625 x 19         13.5         D         2 x 6         18         1.25 x 4 H.H.         16         375           T112-0496         8         1.25 x 17         15-17         S         2 x 12         18         4'1.25" x 4 Machine         4 x 12           CT112-0201         10         1.25 x 15         15         D         3.5 x 36         —         1 x 8 Stud1 x 8 Stud         16         450           CT112-0143         5         .75 x 8 x 8 sq         5-8         S         1.25 dia. hole         12         .75 x 3.5 Carriage         12         71           CT112-0142         5         .75 x 10 x 10 sq         5-8         S         1.25 dia. hole         12         .75 x 3.5 Carriage         12         80           CT112-0302         5'4.5"         .75 x 12         5-10         S         1.25 dia. hole         12         5/8 x 2.5 Carriage         12         80           CT112-0338         4'8"         .75 x 8.75         8         S         1.5 x 3         18         *CT112-0393         10         80										
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CT112-0201         10         1.25 x 15         15         D         3.5 x 36         —         1 x 8 Stud1 x 8 Stud         16         450           CT112-0143         5         .75 x 8 x 8 sq         5-8         S         1.25 dia. hole         12         .75 x 3.5 Carriage         12         71           CT112-0142         5         .75 x 10 x 10 sq         5-8         S         1.25 dia. hole         12         .75 x 3.5 Carriage         12         80           CT112-0302         5'4.5"         .75 x 12         5-10         S         1.25 dia. hole         12         5/8 x 2.5 Carriage         12         80           CT112-0338         4'8"         .75 x 8.75         8         S         1.5 x 3         18         *CT112-0393         10         80										ა <i>1</i> ე
CT112-0143       5       .75 x 8 x 8 sq       5-8       S       1.25 dia. hole       12       .75 x 3.5 Carriage       12       71         CT112-0142       5       .75 x 10 x 10 sq       5-8       S       1.25 dia. hole       12       .75 x 3.5 Carriage       12       80         CT112-0302       5'4.5"       .75 x 12       5-10       S       1.25 dia. hole       12       5/8 x 2.5 Carriage       12       80         CT112-0338       4'8"       .75 x 8.75       8       S       1.5 x 3       18       *CT112-0393       10       80										450
CT112-0142   5   .75 x 10 x 10 sq   5-8   S   1.25 dia. hole   12   .75 x 3.5 Carriage   12   80   1.25 dia. hole   12   5/8 x 2.5 Carriage   12   80   80   1.25 dia. hole   12   .75 x 3.5 Carriage   12   80   .75 x 3.5 Carriage   12   .75 x 3.5 Carriage   .75 x 3.5 Ca	01112-0201	1 10	1.20 / 10	10	ı	J 0.0 A 00	I	I I A O OLUUT A O OLUU	1 '0	700
CT112-0142   5   .75 x 10 x 10 sq   5-8   CT112-0302   5'4.5"   .75 x 12   5-10   S   1.25 dia. hole   12   .75 x 3.5 Carriage   12   80   80         CT112-0338   4'8"   .75 x 8.75   8   S   1.5 x 3   18   *CT112-0393   10   80	CT112 01/2		75 v 0 v 0 cc	5-0	l e	l 1 25 dia bala	l 10	75 v 3 5 Corriggs	10	71
CT112-0302       5'4.5"       .75 x 12       5-10       S       1.25 dia. hole       12       5/8 x 2.5 Carriage       12       80         CT112-0338       4'8"       .75 x 8.75       8       S       1.5 x 3       18       *CT112-0393       10       80					9				I	
CT112-0338   4'8"   .75 x 8.75   8   S   1.5 x 3   18   *CT112-0393   10   80									1	
	01112 0002	0 4.0		5 10	ı	1.20 dia. 11016	'-	0,0 x 2.0 Oamage	'-	- 50
	OT440 0000	1 4101	l 75075 l	0		1 450	l 40	*OT140 0000	40	l 00
01112-0002 40 ./3 x 10.79 0 3 1.3 x 3 10 01112-0092 10 80									I	
	01112-0332	40	./3 X 10./5	0	3	1.5 X 3	10	01112-0092	10	ου

<sup>\*</sup> Bolt assembly for CT112-0338 and CT112-0352 ordered separately. 1) Retaining washer for variable baseplates available, 1" and  $1\frac{1}{4}$ " bolts.

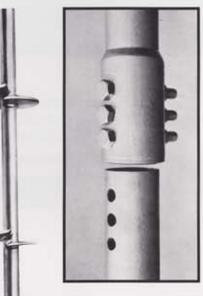
# **EXTENDABLE FOUNDATIONS**

#### FOR DEEP-BEARING SOILS

Chance extendable foundations come in two types. Type HS is a multi-helix lead section of 3-inch extra-heavy pipe shaft to which additional extensions of the same size diameter may be added if high lateral load-carrying capacity is not required. Type TC is a similar-design lead section with the same type helices used on Type HS foundations plus extensions of 8-inch pipe for resisting uplift, compression and lateral loads.

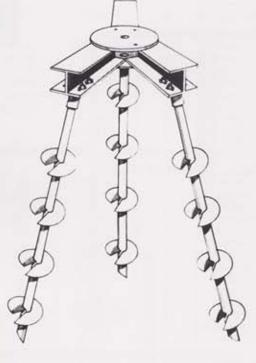
#### **APPLICATIONS**

Extendable foundations are especially applicable in areas, where a high water table exists. Concrete foundations require pumping and casing in an area of high water table. The Chance foundation system does not require any soil preparation prior to installation. On jobs with low working clearances, such as when underpinning an existing building, Chance extendable foundations are ideal. Light, temporary structures and prefabricated Type HS buildings also have been Foundation supported by foundations. Each foundation element may be incorporated into a reinforcedconcrete grade beam beneath the structure, or the foundation may attach directly to metal beams which support a structure.



**HS Extension** 





In many instances, powerinstalled foundations can be installed using the same equipment used for drilled foundations.

When encountering construction that demands low installing noise levels, vibration control, spoils removal or groundwater concerns associated with excavation, look to removable and re-usable Chance power-installed foundations.

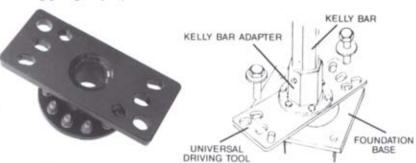
# SIMPLE TOOLS

Use these tools with conventional power-digging equipment.

#### **UNIVERSAL DRIVE TOOL**

For installing all foundations listed on Page 7. Slotted bolt holes adapt to all base plate configurations.

Catalog No. C303-0139(5¼" B.C.)Weight: 18 lbs. C303-0684 (75/8" BC) Weight: 49 lbs.



#### **FLANGE DRIVE TOOL**

For installing all flange-drive foundations on Page 8.

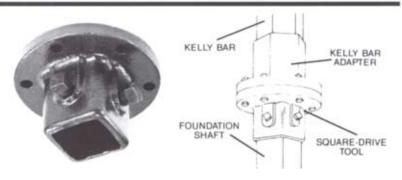
Catalog No. C130-0010

Weight: 10 lbs.



#### **SQUARE DRIVE TOOL**

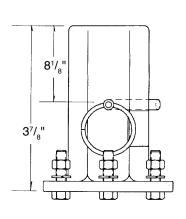
For installing all square drive foundations on Page 8. Attaches directly to Kelly bar adapter. Catalog No. 639000 Weight: 8 lbs.



#### **KELLY BAR ADAPTERS**

Part No.	Kelly Bar Dimension
P630011HD	2 <sup>1</sup> / <sub>2</sub> " Hex
P630012HD	2 <sup>5</sup> / <sub>8</sub> " Hex





KELLY BAR ADAPTER

FOUNDATION

# TYPE HS FOUNDATION

Each high-strength foundation has a galvanized multi-helix lead section of 3-inch extra-heavy pipe to which extensions of the same size may be added. HS foundations are used in applications where compression and tension loads with moderate lateral leads are encountered. Various lead configurations and helical extensions allow flexibility in event of unexpected subsurface conditions.

#### CONNECTION

Type HS lead sections and extensions connect by bolted couplings. Two types of termination are available. One adapter accepts a threaded stud or L-Stud assembly for tension load. The adapter is embedded in a concrete cap. The other termination will accept a shackle or Chance Adjust-A-Grip® deadend for guy strands. Other special connectors can be fabricated on request.

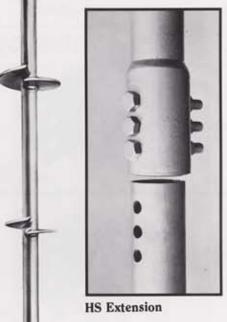
#### **HS Lead Sections**

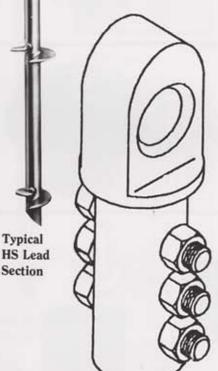
Out No	Length	Helix
Cat. No.	Feet	Configuration
C107-0561	5	10,12
C107-0562	5	12,14
C107-0564	7	10,12,14
C107-0565	7	12.14,14
C107-0566	10	8,10,12,14
C107-0567	10	10,12,14,14
C107-0568	10	14,14,14,14

#### **HS Extensions**

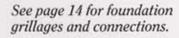
Out No	Length	Helix
Cat. No.	Feet	Configuration
C107-0577	5	14
C107-0579	5	14,14
C107-0573	3	None
C107-0574	5	None
C107-0575	7	None
C107-0576	10	None

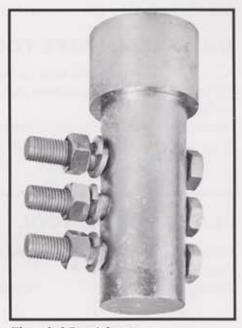
11,000 ft.-lb. Torque Capacity



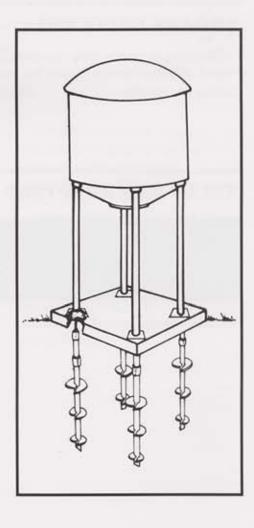


Guy Termination Adapter Catalog No. C111-0046





Threaded Bar Adapter Catalog No. C107-0673



# TYPE TC FOUNDATION

Tension/Compression
Foundations have galvanized lead sections and extensions of 8-inch pipe for resisting uplift, compression and lateral loads.
See page 14 for standardized components that provide flexibility in joining foundation to superstructure. A conventional pile cap will work with T/C Foundations.

#### CONNECTION

Type T/C members connect by bolted helical couplers at the top of the multi-helix lead section and each end of the extension section. For single-element foundations, two terminations are available: Bolted-Cap (to accept a shoe base or similar means to fit the superstructure) and Stub Angle (grouted into the extension cavity). For multi-element foundations, connections to transfer structural loads from the superstructure include the conventional concrete pile cap and metal grillages (Chance Tripod and Quadrupod designs for compression loads which can be field welded or bolted to also transfer tension loads).

Installation tolerances are incorporated into the Bolted Cap and Metal Grillage designs. The Bolted Cap provides a ± 1.4 inches of horizontal adjustment. In general, grillages permit ± 2° from a 10° batter on each element. Grouted or concrete connections provide considerable flexibility in setting the Stub Angle or conventional anchor bolts in the pipe cavity.

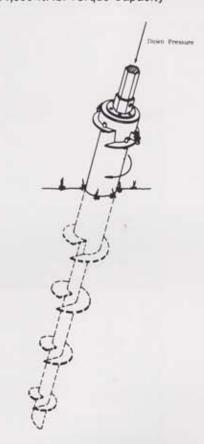
#### TC Lead Sections (3-inch Pipe)

Cat. No.	Length Feet	Helix Configuration
C107-0666	3	10,14
C107-0667	6	8,10,14
C107-0668	6	10,12,14
C107-0669	9	8,10,12,14
C107-0670	9	10,12,14,14

#### TC Extension Sections (8-inch Pipe)

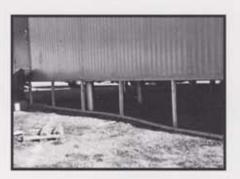
Cat. No.	Length Feet	Helix Configuration
C107-0656	3	14,14
C107-0657	5	14,14
C107-0658	7	14,14
C107-0659	10	14,14

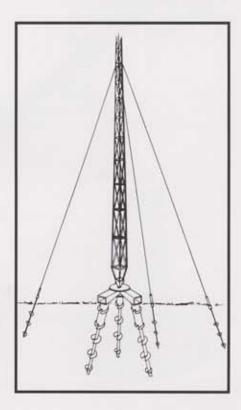
11,000 ft.-lb. Torque Capacity



See page 14 for foundation grillages and connections.







# FOUNDATION GRILLAGES AND CONNECTIONS



Tripod Grillage

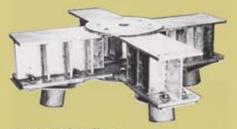
#### Max. Compressive Load (KIPS) Description Catalog No. C107-000203 Tripod to fit on 3" Pipe °C107-001903 Tripod to fit on 3" Pipe Tripod to fit on 3" Pipe Tripod to fit on 3" Pipe Tripod with (3) 8" Pipe Adapters 'C107-001908 Tripod with (3) 8" Pipe Adapters Tripod with (3) 8" Pipe Adapters °C107-027808 Tripod with (3) 8" Pipe Adapters

**Tripod Grillages** 

#### **Quadrupod Grillage**

*T107-030303	Quadrupod to fit on 3" Pipe	350
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\* Note: Grillages available on a made-to-order basis.



Quadropod Grillage

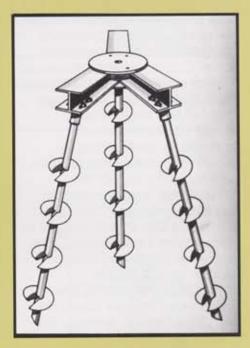




Grillage Adapter for 8" IPS







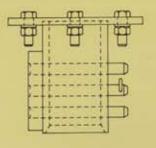
C107-0004 Adapter for 8" Pipe

## INSTALLING EQUIPMENT

#### GENERAL CONSIDERATIONS

To select appropriate anchorinstalling equipment, first consider
two basic requirements: Sufficient
torque capacity and sufficient
ground clearance at output shaft.
Other criteria that deserve
advance attention include:
Material-handling capability, site
limitations to overhead clearance,
mobility (consider self-propelled
vs. carrier-mounted and tracked
vs. wheeled vs. floating).

For the requirements on a specific job, also consider the characteristics of two basic types of foundation-installing machinery. **Guided-head installers offer** excellent control over foundation positioning and alignment: suppliers include Acker, Highway, Hughes, ICE, Sterling, Texoma and Williams. Articulatedhead installers usually suspend the torque head on a boom which also can be used to handle materials at the job site: suppliers include Altec, Caterpillar, Deere, Telelect and Wajax.



#### HS FOUNDATION TOOL

Tubular tool fits over end of 3inch IPS Type HS foundation for power installation. A throughbolt secures the tool to the foundation for driving.

Catalog Number	Weight, lb.
C303-0754	15



#### T/C FOUNDATION TOOL

This special tool has drive pins that insert into the bolt holes of the helical couplers on T/C foundation anchor lead sections and extensions. Easy-release mechanisms permit quick changes for additional extensions.

Catalog Number	Weight, lb.
C303-0594	38



#### **TORQUE INDICATOR**



Using the Chance Torque Indicator, you can install screw anchors to a predetermined torque value which gives a positive indication of anchor capacity in any type soil. The tool helps crews avoid excessive torsional loading which could cause damage to the anchor and/or other anchor tools during installation.

Use to install PISA®, SS, and RR anchors as well as power-installed foundations. Indicator attaches to Kelly bar adapter and drive wrench or locking dog assembly using the bolts provided.



- 20,000 ft.lb. maximum torque
- Easy-to-read dial
- No shear pins to shear and replace



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NOTE: Because Hubbell has a policy of continuous product improvement, we reserve the right to change design and specifications without notice.