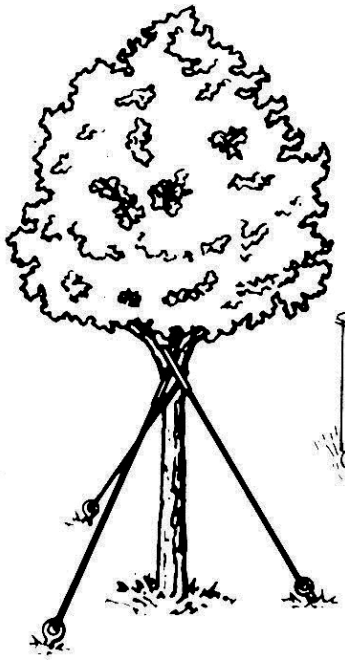
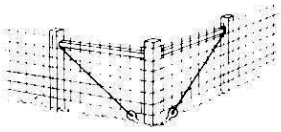
FOR LANDSCAPERS & NURSERYMEN

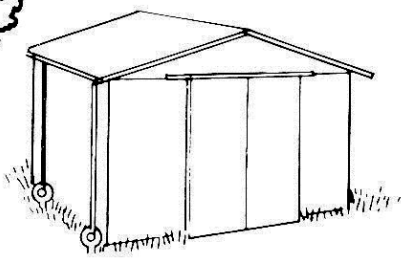
ANCHORS ALMOST ANYTHING TO THE GROUND

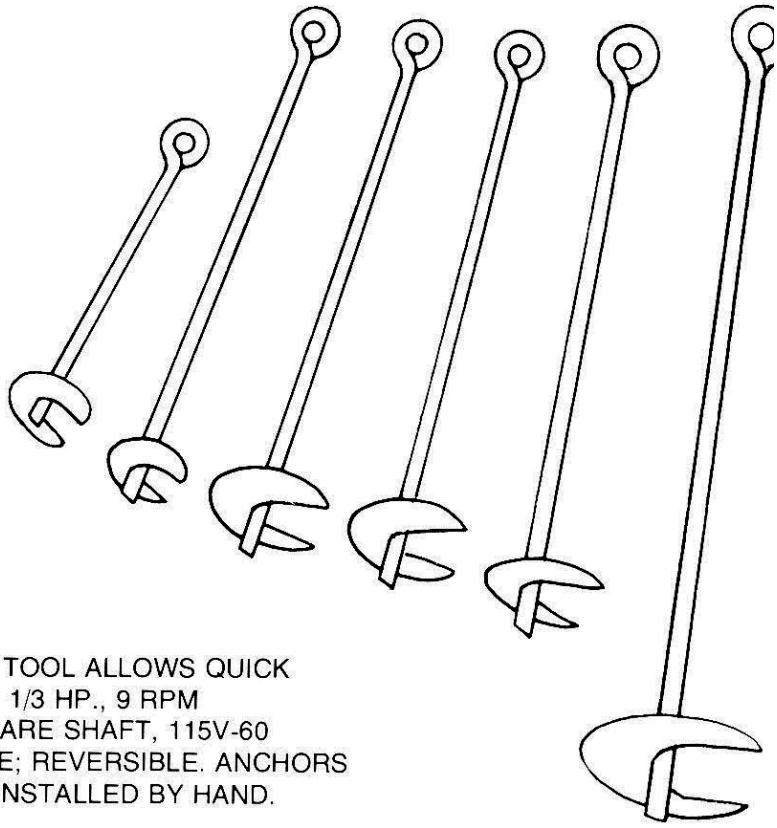
GUY TREES FOR WIND PROTECTION
HOLD RETAINING WALLS
SECURE GREENHOUSES/SMALL BUILDINGS

Holding Power from 200-4,000 pounds

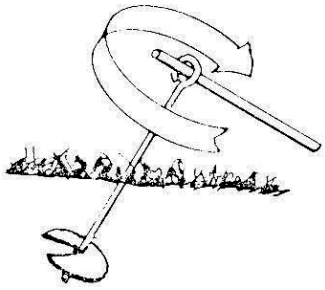




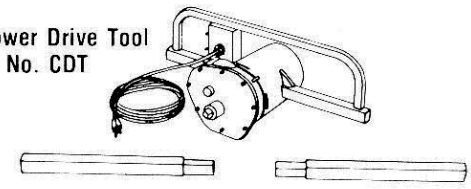




POWER DRIVE TOOL ALLOWS QUICK INSTALLATION. 1/3 HP., 9 RPM TOOL; ¾" SQUARE SHAFT, 115V-60 CYCLE SOURCE; REVERSIBLE. ANCHORS MAY ALSO BE INSTALLED BY HAND.



Chance Power Drive Tool
Cat. No. CDT



SPECIFICATIONS

Catalog Number	Overall Length	Rod Diameter	Eye-Inside Diameter	Helix Diameter	Holding Power In Normal Soil	Packed	Shipping Weight
315SA	15"	7/16"	1"	3"	200 lbs.	12/carton	12 lb./carton
330SA	30"	7/16"	1"	3"	1,400 lbs.	12/carton	22 lb./carton
430SA	30"	1/2"	1"	4"	2,500 lbs.	12 each	30 lb./pack
430TS	30"	11/16"	1 1/2"	4"	2,500 lbs.	6 each	24 lb./pack
404	40"	5/8"	1 1/2"	4"	3,000 lbs	6 each	24 lb./pack
604	48"	11/16"	1 1/2"	6"	4,000 lbs.	6 each	42 lb./pack

Since the Chance Company has a policy of continuous product improvement, it reserves the right to change design and specifications without notice.

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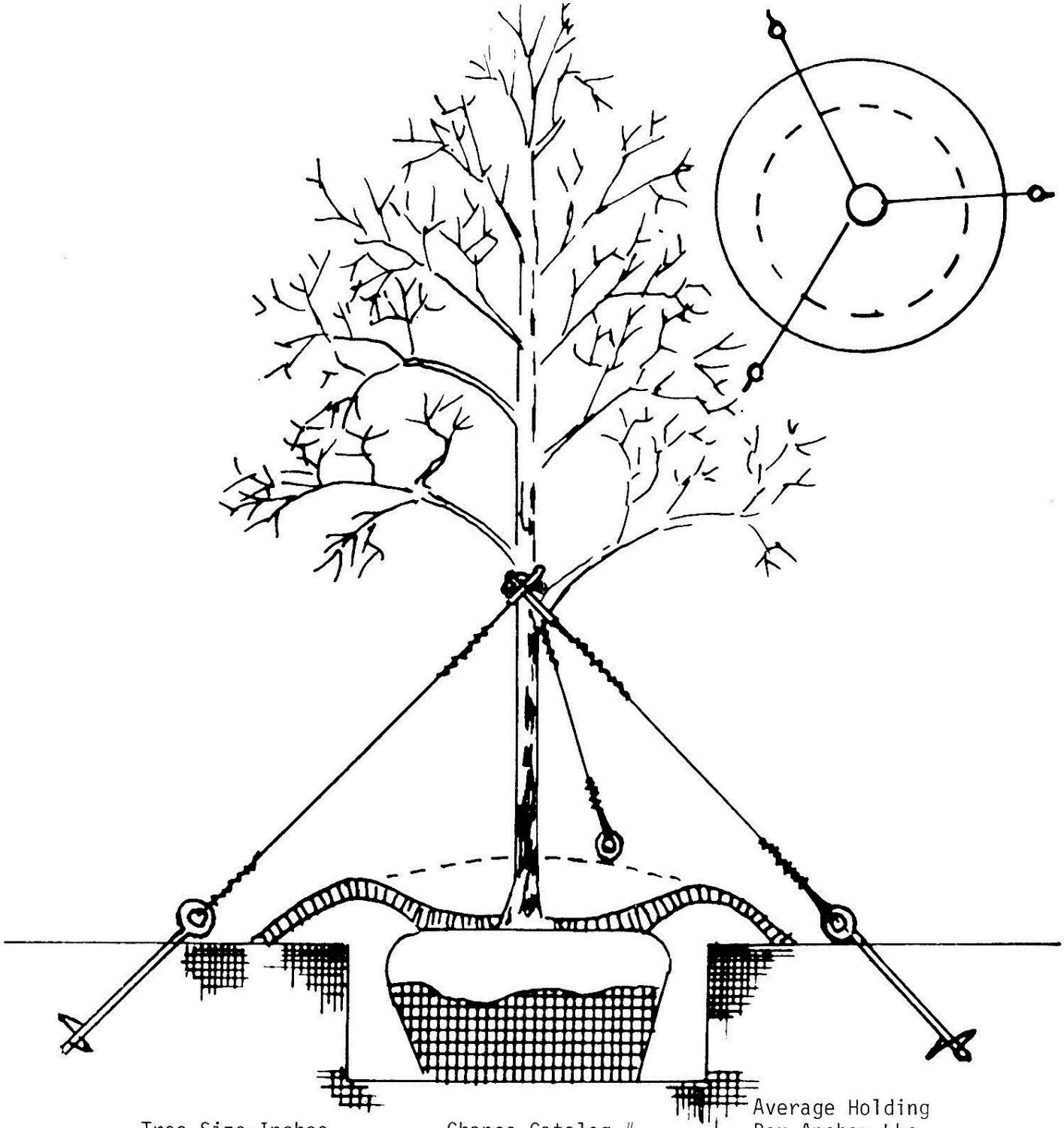
CHANCE GROUND GRIPPER™ ANCHORS

TREE ANCHORING GUIDE
FOR LANDSCAPERS & NURSERYMEN

ANCHORS ALMOST ANYTHING TO THE GROUND



Tree Size-Inches	Chance Catalog #	Average Holding Per Anchor Lbs.
1 - 2"	C315SA	200
2 - 3"	C330SA	1400
3 - 4"	C430SA	2500
4 - 5"	C404	3000
5 - 6"	C604	4000
6" And Over	Consult your Chance representative.	

FOR LANDSCAPERS & NURSERYMEN

A. B. CHANCE EARTH ANCHOR PERFORMANCE COMPARED TO A WOOD STAKE

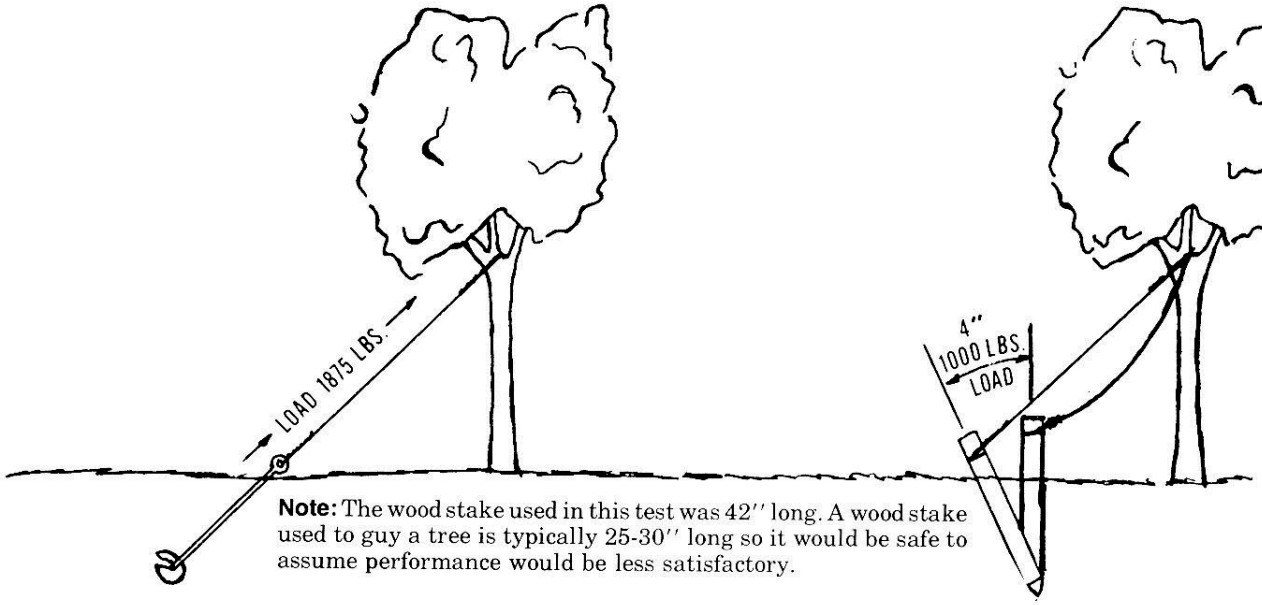
In a series of tests recently conducted by the A. B. Chance Company, Centralia, Missouri, the holding power of a Chance 30'' long earth anchor conclusively showed the anchor dramatically outperformed a wood stake in guying applications.

Test set-up: Pull force applied with a Chance chain hoist and the force measured with a dynamometer.

Specimens: A Chance 30'' by $^{11}/_{16}$'' earth anchor with a 4'' helical plate. Anchor was installed by hand by screwing into the ground.hAnchor rod was inclined 50 degrees to the horizontal and screwed down until the eye was touching the ground. The wood stake was made from dried oak. Nominal dimensions of the wood stake were 1¾'' x 2'' x 42'' long. Stake was driven into the ground at an angle of 55 degrees from the horizontal with a steel sledge hammer. The stake was positioned so it was against the ground resisting the force. The line of pulling force was 30 degrees from the horizontal.

Test Results: When a force of 1,875 pounds pull was exerted on the anchor, it showed its first sign of movement. After movement started, the maximum holding load was 1,500 pounds. The maximum continuous creep load was 1,750 pounds.

When a force of 1,000 pounds was applied to the wood stake, the stake moved through the ground four inches. At 1,150 pounds force, the stake split. Stake continued to pull through the ground at a maximum of 1,250 pounds.



Note: The wood stake used in this test was 42'' long. A wood stake used to guy a tree is typically 25-30'' long so it would be safe to assume performance would be less satisfactory.

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Products in Practice

Earth anchors aid in transplanting big trees

Inspired by the power company's method of anchoring utility poles, a Long Grove, Ill.-based landscape company is successfully using steel screw earth anchors rather than traditional wood stakes to guy trees.

The Theodore Brickman Co. credits their success in transplanting large trees to the use of these anchors; they have a large-tree loss of only .25 percent. The anchors are especially advantageous for large trees on which the root ball has broken or for those planted in windy locations. The company also uses anchors to straighten trees planted with a mechanical tree spade and to tie down branches on "character" trees.

Speed of installation, durability and appearance are noted by Donald Alan, Brickman area manager, as other advantages of the steel screw anchors over two-by-fours, cedar posts, metal stakes and drive-in anchors, which Alan criticized as unsightly and susceptible to splitting.

According to Alan, greater holding reliability is another area in which screw anchors dramatically outperform wooden stakes. This has recently been confirmed by experiments conducted at the Centralia, Mo., engineering research center of A. B. Chance Co., Brickman's earth anchor supplier.

The tests compared the holding power of a Chance screw anchor (a 30-in. length of 11/16-in. steel rod with a welded-on helical steel plate) to that of a dried oak stake (1½- by 2- by 42-in. long).

Pulling force was applied with a chain hoist and measured with a dynamometer. A 1,000-lb. pull moved the wood stake 4 inches; at 1,150 pounds, the stake split and continued to pull through the ground at a maximum of 1,250 pounds. The steel anchor showed no movement until the pulling force reached 1,875 pounds.

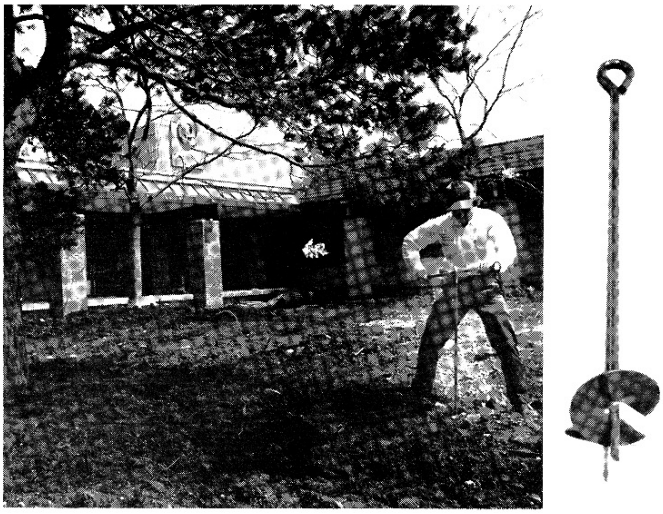
Brickman uses screw anchors on all types of trees—from small pines and character pines to 30-ft. deciduous species—in its residential and commercial landscape projects in the Chicago, Philadelphia and Washington, DC areas.

Alan's installation methods, based on recommendations from Chance, are as follows:

- Use *three* anchors per tree.
- Use 15-in. anchors for small pines, 30-in. anchors for larger ones and 4-ft. anchors for very large trees.
- Screw anchors down until the eye is flush with the ground for best appearance.
- Use aircraft cable for guying. (Brickman uses 5/32-in. or 3/16-in. cable fastened with cable clamps.)
- Use a ratchet pull to tension the cable.

Manual installation is accomplished by inserting a steel bar through the anchor rod eye and screwing it into the ground. On larger jobs or in locations where the soil is very hard, Brickman uses a new electrically powered drive tool supplied by Chance; a small portable generator may be used where no outlet is available. This tool develops one-third horsepower at 9 rpm and is reversible, so an anchor can easily be backed out and repositioned if it hits a boulder.

Technical and photo credit: A. B. Chance Company.



Manual installation is done by inserting a steel bar through the eye of the anchor and screwing it into the ground until the eye is flush with the soil surface. Screw anchors (right) come in several sizes; the size used depends on the size of the tree. Brickman recommends using a minimum of three anchors per tree.

Aircraft cable fastened with cable clamps is used for guying. A rachet pull tensions the cable.

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