

6a. Eight Steps to Chain-Link Fence Installation

Before You Start

You will need the following tools to install your chain-link fence:

- Post hole digger
- Wheelbarrow, shovel and hoe for mixing concrete
- Tape measure
- Carpenter's level
- Strong string and stakes
- Pliers
- Fence stretcher (block & tackle or ratchet type power pull)
- 1/2" or 9/16" wrench
- Reciprocating or circular saw with metal cutting blade or pipe cutter

Step 1: Determine Corner, End and Gate Post (also called terminal posts) Positions

Supplies: stakes, string, tape measure

Locate the boundary lines to your property. Drive stakes into the ground along the extension of your property line and stretch a string between each stake as illustrated in figure A. Set corner, end and gate post (also known as terminal posts) positions 4" inside line so concrete footings do not encroach onto any adjoining property.

Note: When determining the positions of gate posts, remember clearance for hinges, latches, etc. is included in the opening width of the gate. If you ordered a gate for a 36" opening, the post spacing should be exactly 36" inside post face to inside post face.

Standard gate widths are 36", 39", 42" and 48" for single walk gates and 10' or 12' for double drive gates.

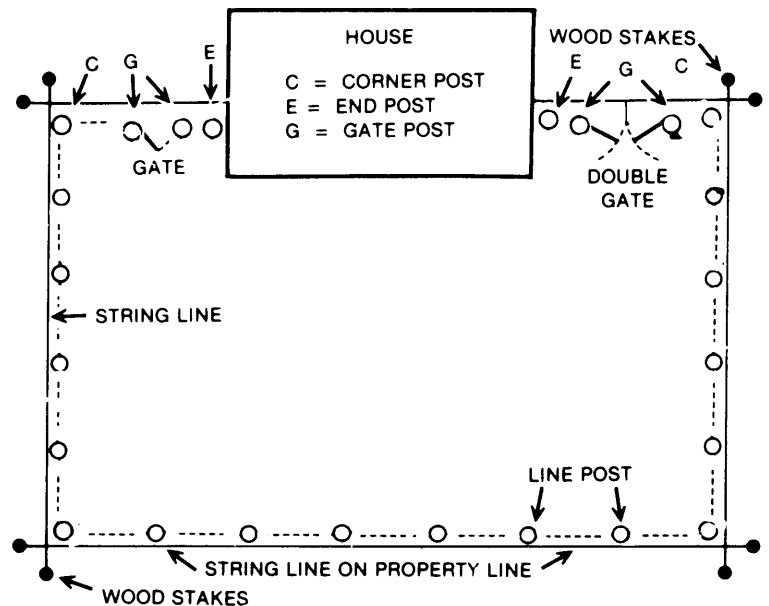


Figure A

Step 2: Set Terminal Posts

Supplies: post hole digger, crayon or chalk, concrete, carpenter's level, tape measure

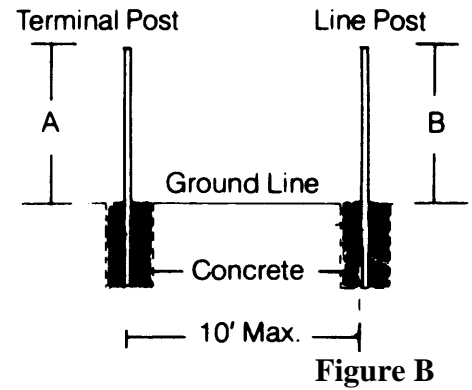
While exact post depth will be determined by local weather and soil conditions, holes for terminal posts are generally dug 8" wide and 18" – 30" deep with vertical sides (the hole should not slope, but be perfectly straight top to bottom). Ask your chain-link dealer for specific terminal post depths. Dig all post holes.

Next, with crayon or chalk, mark the ground line on the posts. Once in place, the terminal posts should be the height of the fabric PLUS 2".

Set posts in concrete with the following mix: 1 part cement, 2 parts sand and 4 parts gravel. Mix a fairly

heavy solution as too much water weakens concrete and may cause cracking. Posts should be centered in the hole (see Figure B). Be sure the crayon or chalk mark remains at ground level. Check the plumb with a carpenter's level. When plumb, crown all concrete post footings for water drainage by sloping concrete away from post.

*Measurement A should be 2" longer than the height of the fabric.
Measurement B should be 2" shorter than the height of the fabric.*



Step 3: Locate and Set Line Posts

Supplies: string, post hole digger, crayon or chalk, concrete, carpenter's level, tape measure

After concrete footings have hardened enough for posts to remain plumb (usually about 24 hours), stretch a string taut between terminal posts. It should be positioned on the outside face of the posts, 4" below the top.

Measure the distance between terminal posts and refer to line post spacing chart (Figure C) to determine exact

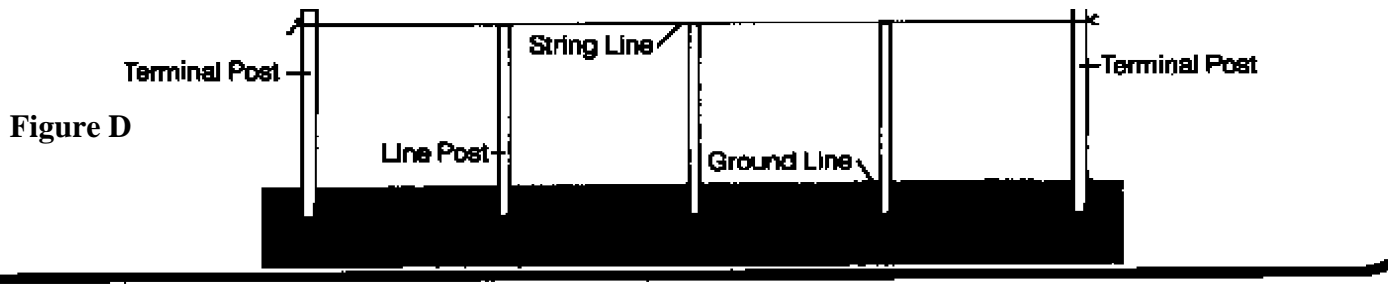
LINE POST SPACING CHART

Space	Set Post Apart	Space	Set Post Apart	Space	Set Post Apart	Space	Set Post Apart	Space	Set Post Apart
30 ft.	10 ft. 0 in.	52 ft.	8 ft. 8 in.	73 ft.	9 ft. 2 in.	95 ft.	9 ft. 6 in.	116 ft.	9 ft. 8 in.
31 ft.	7 ft. 9 in.	53 ft.	8 ft. 10 in.	74 ft.	9 ft. 3 in.	96 ft.	9 ft. 7 in.	117 ft.	9 ft. 9 in.
32 ft.	8 ft. 0 in.	54 ft.	9 ft. 0 in.	75 ft.	9 ft. 4 in.	97 ft.	9 ft. 7 in.	118 ft.	9 ft. 10 in.
33 ft.	8 ft. 3 in.	55 ft.	8 ft. 2 in.	76 ft.	9 ft. 6 in.	98 ft.	9 ft. 8 in.	119 ft.	9 ft. 10 in.
34 ft.	8 ft. 6 in.	56 ft.	9 ft. 4 in.	77 ft.	9 ft. 7 in.	99 ft.	9 ft. 9 in.	120 ft.	10 ft. 0 in.
35 ft.	8 ft. 9 in.	57 ft.	9 ft. 6 in.	78 ft.	9 ft. 9 in.	100 ft.	10 ft. 0 in.	121 ft.	9 ft. 3 in.
36 ft.	9 ft. 0 in.	58 ft.	9 ft. 8 in.	79 ft.	9 ft. 10 in.	101 ft.	9 ft. 2 in.	122 ft.	9 ft. 4 in.
37 ft.	9 ft. 3 in.	59 ft.	9 ft. 10 in.	80 ft.	10 ft. 0 in.	102 ft.	9 ft. 3 in.	123 ft.	9 ft. 5 in.
38 ft.	9 ft. 6 in.	60 ft.	10 ft. 0 in.	81 ft.	9 ft. 0 in.	103 ft.	8 ft. 4 in.	124 ft.	9 ft. 6 in.
40 ft.	10 ft. 0 in.	61 ft.	8 ft. 8 in.	82 ft.	9 ft. 1 in.	104 ft.	9 ft. 5 in.	125 ft.	9 ft. 7 in.
41 ft.	8 ft. 2 in.	62 ft.	8 ft. 10 in.	83 ft.	9 ft. 3 in.	105 ft.	9 ft. 6 in.	126 ft.	9 ft. 8 in.
42 ft.	8 ft. 5 in.	63 ft.	9 ft. 0 in.	84 ft.	9 ft. 4 in.	106 ft.	9 ft. 7 in.	127 ft.	9 ft. 9 in.
43 ft.	8 ft. 6 in.	64 ft.	9 ft. 0 in.	85 ft.	9 ft. 6 in.	107 ft.	9 ft. 8 in.	128 ft.	9 ft. 10 in.
44 ft.	8 ft. 9 in.	65 ft.	9 ft. 3 in.	86 ft.	9 ft. 7 in.	108 ft.	9 ft. 9 in.	129 ft.	9 ft. 10 in.
45 ft.	9 ft. 0 in.	66 ft.	9 ft. 5 in.	87 ft.	9 ft. 8 in.	109 ft.	9 ft. 10 in.		
46 ft.	9 ft. 2 in.	67 ft.	9 ft. 7 in.	88 ft.	9 ft. 9 in.	110 ft.	10 ft. 0 in.		
47 ft.	9 ft. 5 in.	68 ft.	9 ft. 8 in.	89 ft.	9 ft. 10 in.	111 ft.	9 ft. 3 in.		
48 ft.	9 ft. 7 in.	69 ft.	9 ft. 10 in.	91 ft.	9 ft. 2 in.	112 ft.	9 ft. 4 in.		
49 ft.	9 ft. 9 in.	70 ft.	10 ft. 0 in.	92 ft.	9 ft. 2 in.	113 ft.	9 ft. 5 in.		
50 ft.	10 ft. 0 in.	71 ft.	8 ft. 9 in.	93 ft.	9 ft. 3 in.	114 ft.	9 ft. 6 in.		
51 ft.	8 ft. 6 in.	72 ft.	9 ft. 0 in.	94 ft.	9 ft. 5 in.	115 ft.	9 ft. 7 in.		

Figure C

distance between line posts.

Line posts should be installed so that the center of the line posts will line up with terminal post centers. This means the outside faces of the line posts will be about 1/4" inside the string line. When installed, the top of the line post should be even with the string (see Figure D). While regularly checking plumb with level, dig the line post holes (usually 6" wide and 18" – 24" deep) and set the line posts using concrete as described in step 2. Crown footings as in step 2.



Find your yard type in Figure E for further information on the placement of posts.

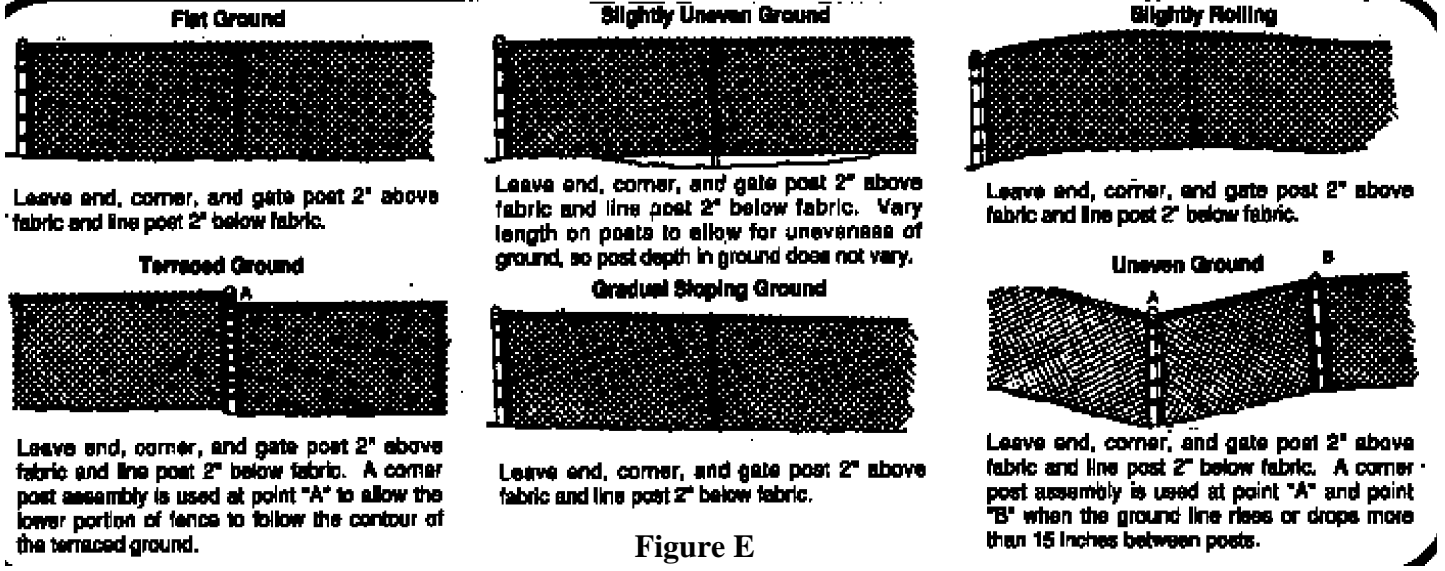


Figure E

Step 4: Add Fittings to Terminal Posts

Supplies: tension bands (3 bands for 3' – 5' posts, 4 bands for 5' posts and 5 for 6' posts; double the quantity for corner posts), rail end bands (1 for each rail end), post caps (1 on each terminal post)

After concrete footings have been allowed to sufficiently harden, slip the tension bands evenly onto the terminal posts. The long flat surface of the tension band should face toward the outside of the fence. Next add rail end bands. Take care not to spread or distort the fittings. All bolt heads for bands are on the outside of fence and the threaded

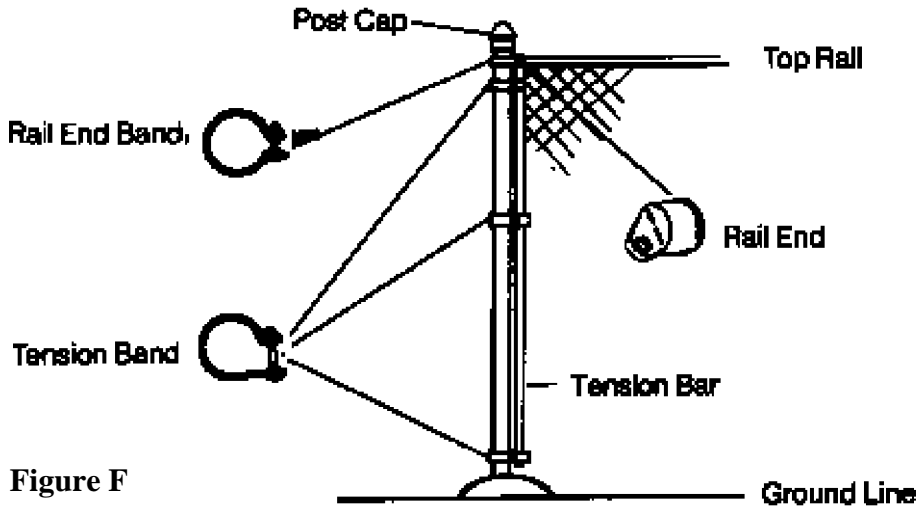


Figure F

ends are on the inside. Now apply all post caps to terminal posts (See Figure F).

Step 5: Apply Top Rail

Supplies: eye-tops (1 for each line post), top rail pipes, top rail sleeves (if swedge end top rail not used), rail end (1 for each end post, two for each corner post), 5/16" x 1 1/4" carriage bolts (1 for each rail end band), saw

Definition: a swedge end top rail is a pipe that is smaller at one end than the other, allowing it to fit into the large end of another pipe, without the use of top rail sleeves (see Figure H.3).

Place eye-top (also called loop cap, Figure H.1) fitting on the end of each line post. The flat side of the eye-top should be toward the outside of the fence. Insert one length of top rail pipe through the eye-tops closest to a terminal post (Figure H.2). Slip a rail end cup onto the end of the top rail and attach it to a terminal post by using the rail end band. Secure by using a 5/16" x 1 1/4" carriage bolt. Continue by forcing lengths of swedge end top rail together through the eye-tops (if swedge end top rail is not used, join lengths together with top rail sleeve). Upon reaching the next terminal post, measure carefully and cut the top rail to fit tightly between the last length of top rail and the rail end cup fastened to the rail end band on the terminal post



Figure H.1

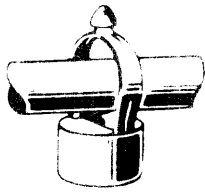


Figure H.2



Figure H.3

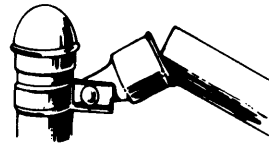


Figure H.4

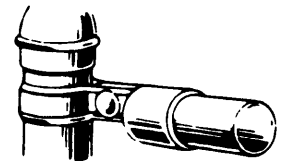


Figure H.5

(Figure H.4 and H.5). Secure in place with a carriage bolt.

Step 6: Hanging Fence Fabric

Supplies: chain-link fabric, tension bars (1 for each end post, 1 for each gate post, 2 for each corner post), 5/16" x 1 1/4" carriage bolts (1 for each tension band), tie wires (1 for every 24" of top rail and 1 for every 12" of line posts),

Starting at terminal post, unroll chain-link fabric on the ground along the outside of the fence line to next terminal post. Then, slide a tension bar through the first row of chain-link. Fasten the tension bar / fabric combination to the evenly spaced tension bands (already on the post) using 5/16" x 1 1/4" carriage bolts with their heads to the outside of the fence (See Figure I.1).

Now, walk along the fabric and stand it up against the fence frame, taking out the slack as you go. Loosely attach fabric to top rail with a few tie wires to hold it in place (Figure I.2). Next, separate enough fabric from the roll to span the opening between the terminal posts. It is not necessary to cut wire.

Note: To remove excess fabric, open the top and bottom loops (knuckles) of a single strand of wire with pliers at the desired point of separation. Unwind the strand up through the links until the fabric comes apart (Figure J).

Splicing sections of fabric:

Using a single strand of wire removed from end of fabric, join the two sections by winding the loose strand down, corkscrew style, through the end links. Join and tighten the knuckles at top and bottom to secure. Before sections can be spliced, a second strand may have

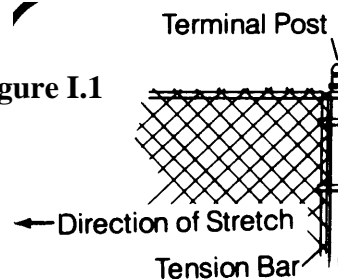


Figure I.1

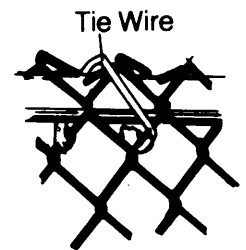


Figure I.2



Figure J

to be removed to provide a proper mesh.

Step 7: Stretching the Fabric

Supplies: chain-link fabric, tension bars (1 for each end post, 1 for each gate post, 2 for each corner post), 5/16" x 1 1/4" carriage bolts (1 for each tension band), tie wires (1 for every 24" of top rail and 1 for every 12" of line posts), fence stretcher (can be purchased or rented from a tool rental facility)

The fence fabric will need to be stretched from the terminal post already attached toward the opposite terminal post. Insert a tension bar about 3 feet inside the unattached end of the fabric. Then, securely fasten one end of the fence stretcher to the tension bar and the other end to the terminal post. Now, stretch the fabric(Figure K). The correct fabric tension should allow a slight amount of give when squeezed by hand. Adjust fabric to exact length by adding or removing wire as described in step 6.

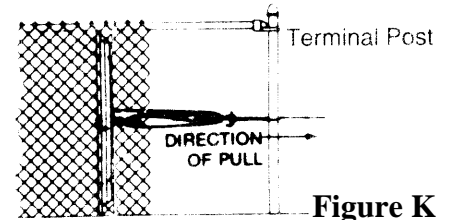


Figure K

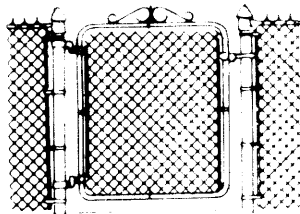
Then insert a tension bar at the end of the fabric and connect to tension bands on terminal post. After removing the fence stretcher fasten fabric securely with tie wires spaced approximately 24" apart along the top rail and 12" apart on each line post. Finally, securely tighten nuts on all brace and tension bands.

Step 8: Hanging Gates

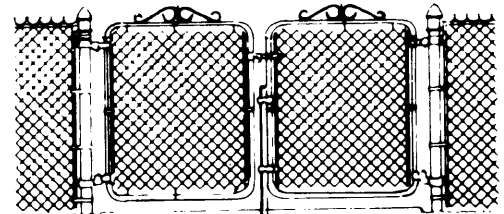
The same installation procedure is used on both single walk and double drive gates(Figure L). Apply post (male) hinges to gate post. To prevent gate from being lifted off, top post hinge should be installed with pin pointing down; bottom post hinge with pin pointing up. Set gate in place, aligning top of gate with top of fence. Adjust hinges to allow for full swing. Position gate latch at convenient height. Tighten all bolts securely.

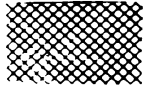
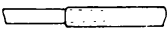

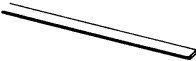





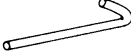


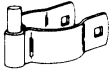





Figure L

39" WALK GATE
SET POSTS 39" APART
42" WALK GATE
SET POSTS 42" APART
48" WALK GATE
SET POSTS 48" APART



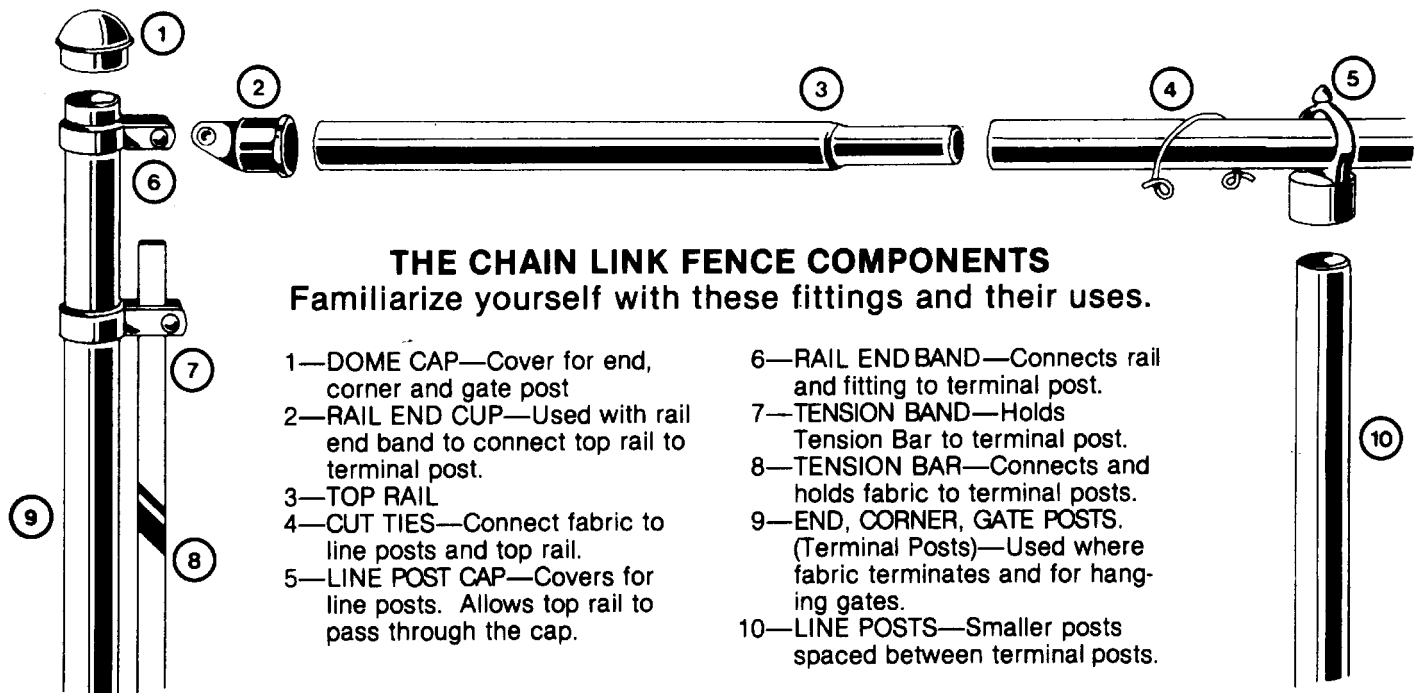
10' DOUBLE
DRIVE GATE
SET POSTS 10' APART
12' DOUBLE
DRIVE GATE
SET POSTS 12' APART



ITEM NO.	ITEM DESCRIPTION	QUANTITY TO USE
1	 Fabric (50 feet per roll)	Divide total footage by 50 and round up
2	 Top Rail 10'6" x 1-3/8" O.D. Swedged or 21' x 1-3/8"	Divide total footage by 10 or 20' and round up.
3	Line Post 1-5/8" O.D.	Divide total footage by 10 and round up
4	 Line Post Cap 1-5/8" x 1-3/8"	Used 1 per Line Post
5	Terminal Post 2-1/2"	—
6	 Tension Bar	Use 1 per end or gate post, 2 per corner post
7	 Rail End Band	Use 1 per Tension bar
8	 Rail End Cup 1-3/8"	Use 1 per tension bar
9	 Tension Band	Use 4 per tension bar or 1' per foot of fence height
10	 5/16" x 1 1/4" Carriage Bolts	Use 1 per tension or rail end band
11	 Dome Cap	Use 1 per terminal post
12	 Alum Cut Ties	Use 1 per foot of fence — Packaged 100 per bag
13	 Walk Gate	—
14	 Double Drive Gate	—
15	 Male Hinge 2 1/2"	Use 2 per walk gate and 4 per double drive gate
16	 3/8" x 3" Carriage Bolts	Used with the male hinge, 1 per hinge
17	 Female Hinge 1-3/8"	Use 2 per walk gate and 4 per double drive gate
18	 3/8" x 2" Carriage Bolts	Used with female hinge, 1 per hinge
19	 1-3/8" x 2 1/2" Walk Gate Latch	1 on walk gate only
20	 1-3/8" x 1-3/8" Drive Gate Latch	1 pr. for each drive gate

Eight Steps To Chain-Link Installation

To begin, familiarize yourself with the fence fittings below:



Use this chart to plan your chain-link fence and what components you will need to build the fence (see tool and hardware lists, as well):

