



Assembly Manual
w/ Part Master

Edition

GREENHOUSE TECHNOLOGY INC.

Greenhouse Irrigation and Control

Boomerangs Installation Guide

Getting Familiar With Your Machine

Congratulations on your commitment to improving the quality and value of your plants! With the Boomerang® Basket System you have everything you need to exceed all of your growth and economical expectations!

With all of the irrigation choices available today, finding the best watering solution for your needs can be confusing. Everyone at Greenhouse Technology, Inc. would like to congratulate you and thank you for selecting the Boomerang® Basket System.

The Boomerang® Basket System's superior design and quality is unmatched by any other single piece of equipment available today. You will not believe the outstanding performance above others in the industry.

The Boomerang® is the best overhead basket system product available, and you're about to prove it to yourself.



Basic Assembly Principles

To help you assemble the Boomerang® Basket System a quick and easy way there are a few basic principles that you should follow.

1. To make the assembly process go faster and save you extra time and effort, gather the pieces you need for each step and thoroughly read the assembly instructions for that step prior to starting assembly for the step.
2. Be sure to have all the tools required for the assembly ready before hand. A list of the required and suggested tools is provided in this manual.

*Based on 100ft, 2 layer Boomerang® System

Parts List

| Item No. | Qty. | Item No. | Qty. |
|----------|-------|----------|--------|
| 1 | 1 | 24 | 2 |
| 2 | 1 | 25 | 2 |
| 3 | 1 | 26 | 28* |
| 4 | 1 | 27 | 28* |
| 5 | 1 | 28 | 225* |
| 6 | 1 | 29 | 225* |
| 7 | 1 | 31 | 113* |
| 8 | 1 | 32 | 113* |
| 9 | 2 | 33 | 0* |
| 10 | 4 | 34 | 113* |
| 11 | 4 | 35 | 113* |
| 12 | 4 | 36 | 0* |
| 13 | 2 | 37 | 1 |
| 14 | 2 | 38 | 2 |
| 15 | 2 | 39 | 2 |
| 16 | 2 | 40 | 2 |
| 17 | 1 | 41 | 20(Ft) |
| 18 | 2 | 42 | 1 |
| 19 | 2 | | |
| 20 | 9(Ft) | | |
| 21 | 4(Ft) | | |
| 22 | 2 | | |
| 23 | 6 | | |

3/4" Spray Head Nozzel

Tension Anchor Plate

Aluminum Extrusion 11"

2" Strap

Basket Hook

Basket Hook Clip

Black Plastic Tab

Green Plastic Tab

Blue Plastic Tab

Counter Weight

Basket Hanger (20")

Basket Hanger (40")

Pull Cord Housing

Pencil Magnet Reader

Earth' Magnet

OMRON Switch

Network Wire

Boomerang® Controller

Hardware List

| Item No. | Qty. | | Item No. | Qty. | |
|----------|------|------------------------------------|----------------|------|-----------------------------------|
| A | 4 | Bolt 1/4 x 1" Tap (Machine Thread) | AA | 32* | NYLOCK 3/8" Jam Nut |
| B | 20 | Bolt 3/8 x 1" Carriage | BB | 2 | 1/2" Conduit Clamp |
| C | 56* | Bolt 3/8 x 1" Tap | CC | 3 | 3/4" Conduit Clamp |
| D | 4 | Bolt 3/8 x 2.5" Tap | DD | 1 | 3/4" T ^m SSS |
| E | 2 | Screw 6-32 x 2" Pan Head | FF | 1 | 3/4" Elbow SS |
| F | 4 | Screw 6-32 x 1 1/8" Pan Head | GG | 2 | 3/4" Male Adaptor |
| G | 1 | Screw 1/4-20 x 1/2" Thumb | HH | 2 | 1 x 3/4" Bushing |
| H | 2 | Screw 1/4 x 1 1/2" Hex Cap | II | 2 | 1 x 1/2" Bushing |
| I | 2 | Screw 1/2-20 x 3/4" Hex Cap | JJ | 2 | 1/2" Nipple x Closed |
| J | 6 | Screw 1/2 x 4" Hex Cap | KK | 2 | 1/2" Male x Hose Barb |
| K | 15 | Screw #12 TEK | LL | 2 | 1/2" Female x Hose Barb |
| L | 120 | Screw #14 TEK | MM | 2 | 1/2 x 8" Nipple |
| M | 1 | Screw 5/8 x 4" Hex Cap | NN | 2 | 1/2 x 3/4" Male Hose Union, Brass |
| N | 16 | Screw 1/2" x 2 Hex Cap | OO | 4 | 1/2" Worm Clamp |
| O | 4 | Washer 6-32 Flat | PP | 2 | 3/4 X 3' Threaded Rod |
| P | 4 | Washer 1/4" Lock | | | |
| Q | 20 | Washer 3/8" Flat | | | |
| R | 16 | Washer 1/2" Lock | | | |
| S | 16 | Washer 1/2" Flat | Item No. | Qty. | |
| T | 16 | Nut 1/2" Finished Hex | QQ | 15 | Mounting straps for 2" tubing |
| U | 2 | Nut 3/4" Finished Hex | RR | 10 | Sleeves for 2" Tubing |
| V | 4 | NYLOCK 6-32 | SS | 1 | Aluminum Master Crimp |
| W | 4 | NYLOCK 1/4" | | | |
| X | 6 | NYLOCK 1/2" | <u>Options</u> | | |
| Y | 136 | NYLOCK 3/8" | Item No. | Qty. | |
| Z | | | 1 | 1 | Hook Counter |
| | | | 2 | 1 | Funnel Watering |

Tools You Will Need

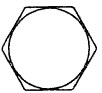
You need the following tools to complete the installation of your Boomerang® Basket System. If you don't have these tools, you can find them at any hardware or department store for a reasonable price. Some tools are not required but are strongly suggested from first hand experience. The power tools, for example, save time and labor immensely.

Required Tools

| Item No. | Qty. | | Item No. | Qty. | |
|----------|------|------------------------------------|--------------------|------|------------------------------------|
| 1 | * | Hammer, Rubber Mallet | 19 | * | 4 - 4 1/2" grinder w/grinding disk |
| 2 | * | Regular Flat Screw Driver | 20 | * | chisel |
| 3 | * | Medium Philips Screw Driver | 21 | * | Utility Knife |
| 4 | * | Wire Strippers (up to 20 gauge) | 22 | * | 1/2 drill bit |
| 5 | * | Electronic Screw Driver Set | 23 | * | Cable cutter (supplied) |
| 6 | * | TEK Screw Driver w/ 5/16" and 3/8" | | * | Cable crimper (supplied) |
| 7 | * | PVC Cleaner, cement and cutter | | | |
| 8 | * | Teflon Tape | <u>Power Tools</u> | | |
| 9 | * | Open wrench set | 24 | * | Cordless drill |
| 10 | * | Adjustable Wrench (medium) | 25 | * | Cordless impact wrench(DeWalt) |
| 12 | * | Vice grips | 26 | * | Cut-off saw |
| 13 | * | Channel Locks | | | |
| 14 | * | String line | | | |
| 15 | * | Level | | | |
| 16 | * | Black marker pen | | | |
| 17 | * | Scaffolding, ladder | | | |
| 18 | * | Measuring tape | | | |

Hardware Guide

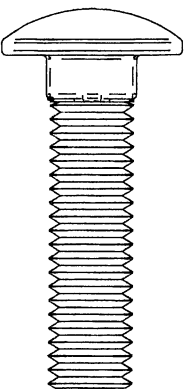
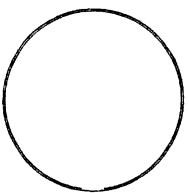
Below is a description of the hardware you will using for the installation of your Boomerang®



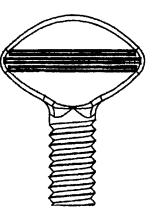
Item#: A
Qty: 4
Decr: 1/4 x 1"
Tap Bolt



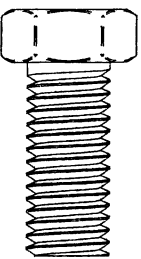
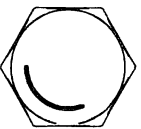
Item#: F
Qty: 4
Decr: 6-32 x 1 1/8"
Pan Head Screw



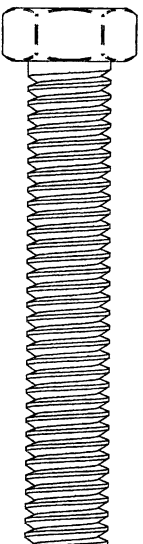
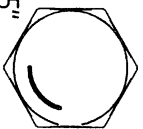
Item#: B
Qty: 20
Decr: 3/8 x 1"
Carriage Bolt



Item#: G
Qty: 1
Decr: 1/2-20 x 3/4"
Thumb Screw



Item#: C
Qty: 56
Decr: 3/8 x 1"
Tap Bolt

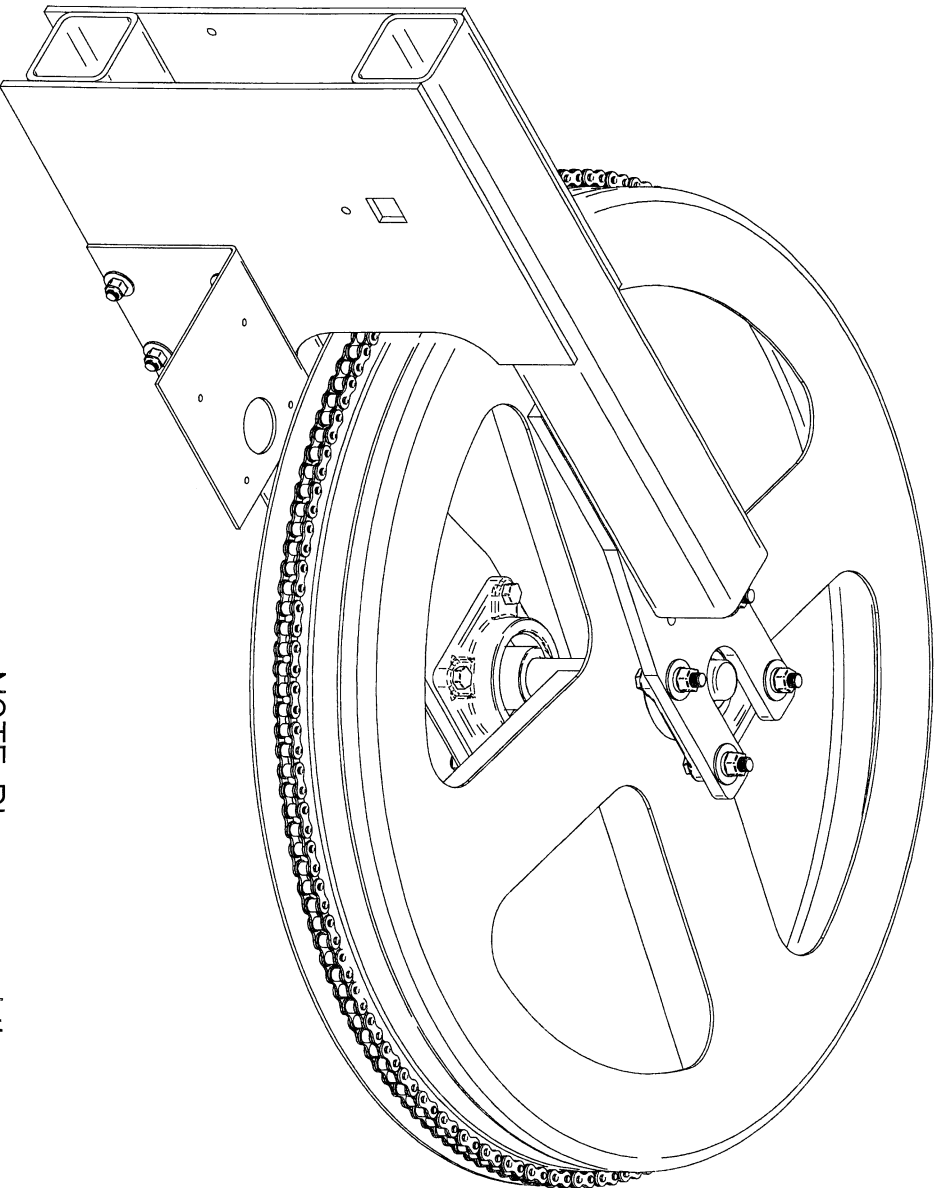


Item#: D
Qty: 4
Decr: 3/8 x 2.5"
Tap Bolt



Item#: E
Qty: 2
Decr: 6-32 x 2"
Pan Head Screw

Boomerang Assembly Manual: Part 1/drum assm.

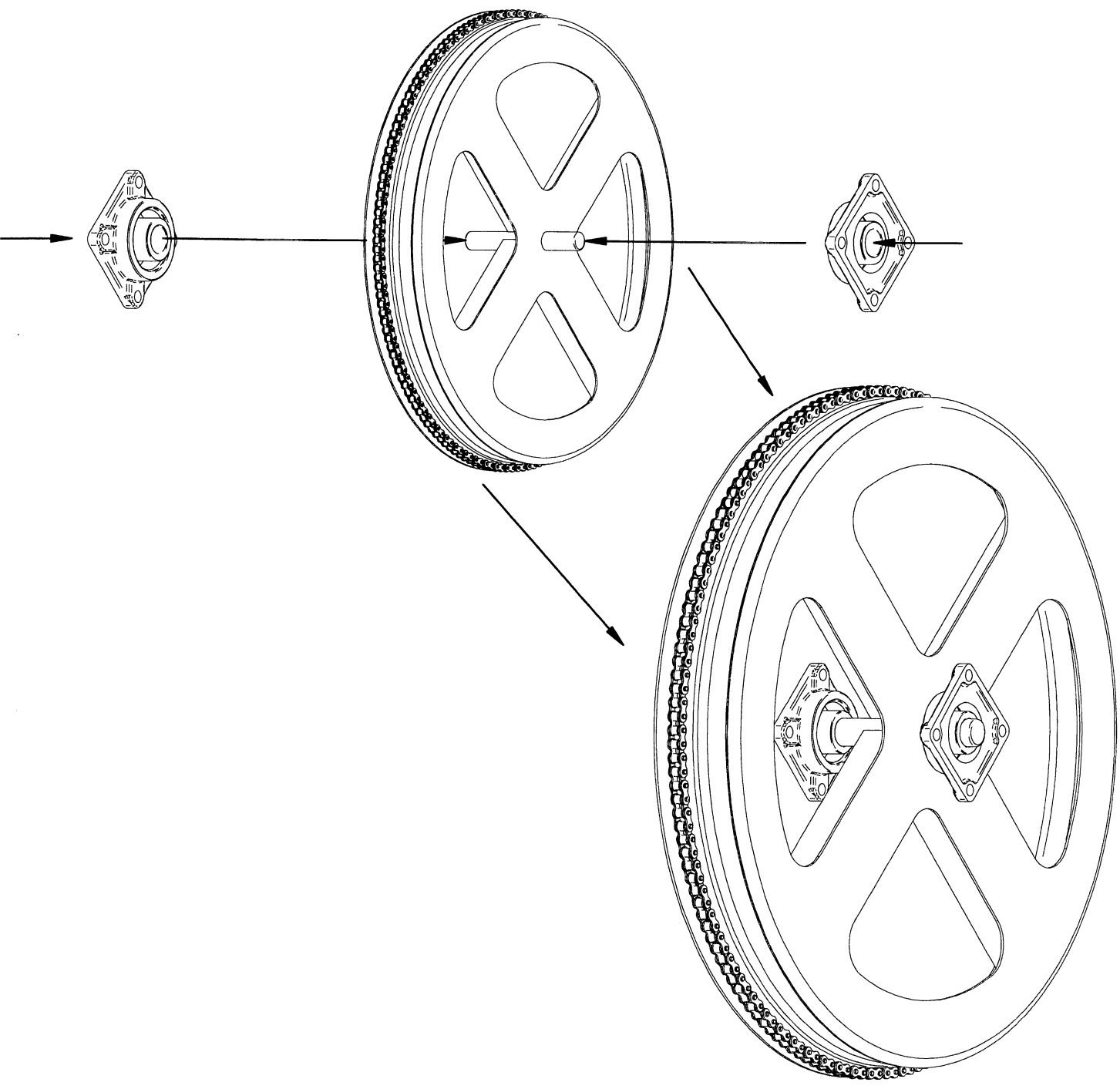


NOTE: Please read the construction manual thoroughly and identify all hardware and materials before beginning assembly. This assures proper placement of all parts and a smooth installation.

Part I: step A

Assembly of the drum and corresponding parts

Mount pillow blocks to both ends of the drum axlesee figure 1./1.



Part I: step B

Mating of the drum assm./step A/ with the B part.

Before fastening A into B, be certain that the 'needle' bearing is in place with support plate/see figure 1.1/.

