

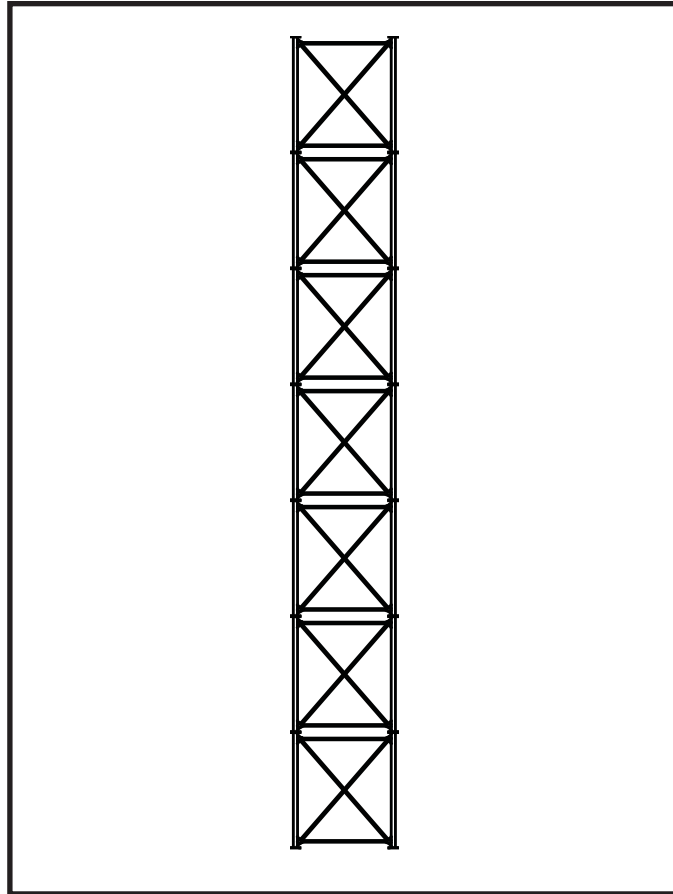


Brownie **SYSTEMS**

A Unit of **GLOBAL** Industries, Inc.

Two Column Tower

4" [102mm] STAGED
CONSTRUCTION AND OWNER'S MANUAL





The Symbol shown below is used to call your attention to instructions concerning your personal safety. Watch this symbol - it points out important safety precautions. It means “ATTENTION” - Become Alert! Your Personal Safety Is Involved! Read the message that follows and be alert to the possibility of personal injury or death.



Be Alert!

Your Personal Safety Is Involved

A copy of this manual should be available at all times to the owner/operator. Additional copies may be requested from the company at the address shown on the back cover. Please reference manual part number 4000024 when requesting additional copies.

Please Contact BROWNIE SYSTEMS or Your Dealer
If You Have Any Questions Concerning This Manual

Keep This Manual In A Safe Place Available For Future Reference



PREFACE

You have purchased the finest Two Column Tower manufactured today. The following information is intended as a guide for: tower pre-assembly, proper construction of your tower, and safe and proper use of your tower after construction.



General Safety Statement

Your safety and the safety of others associated with grain system equipment, is of prime concern to us at Brownie Systems. This manual was written with the safety of the operator and, or others who come into contact with the equipment as our prime concern. We wrote this manual to help you to better understand how to safely build and use your Two Column Tower.

It is your responsibility as the owner, builder, operator, or supervisor, to know what specific requirements, precautions, and hazards exist and to make these known to all personnel working with the equipment or in the area, so that they too may take any necessary safety precautions that may be required!

Failure to read this Manual and its Safety Instructions by all personnel is a misuse of the equipment. We want you as our partner in safety!

All personnel, including construction personnel, must read and understand all equipment Operator's Manuals before starting Two Column Tower construction!



Contents

Be Alert	2
General Safety Statement	3
Warranty	5
1 Safety	7
General Safety Requirements	7
OSHA Occupational Safety and Health Act of 1970 ..	9
2 Bolt Torque	10
3 Tower Installation	11
Assemble the Tower, Use a Crane	11
Position and Install the Tower to the Foundation ...	12
Securely Connect the Tower to the Bin	13
Install Knee Braces to the Tower	14
Index	15

Warranty

Global Industries Inc. (the **Company**) makes the following warranty to the initial retail purchaser of its products (the **Customer**).

MATERIALS and WORKMANSHIP:

The Company warrants products manufactured by it to be free from defects in materials and workmanship in normal use and service for a period of one (1) year after date of delivery to the Customer.

COMPANY'S OBLIGATION and CUSTOMER'S EXCLUSIVE REMEDY:

The Company's sole obligation and the Customer's exclusive remedy under this warranty is as follows:

If within one (1) year after delivery to the customer the product fails to function properly due to a defect in either materials or workmanship, the Company will at its option, either repair the defective part or replace the defective part with a new or reconditioned part. Labor charges for removing defective parts and installing replacement parts, shipping charges with respect to such parts, and applicable sales and other taxes, if any, shall not be covered by this warranty.

CONDITIONS, LIMITATIONS, AND EXCLUSIONS:

There are no warranties or merchantability or fitness for a particular purpose with respect to any product manufactured or sold by the Company. Motors provided by the Company are in most instances warranted by the manufacturer thereof and are not warranted by the Company. The Company shall not be responsible under this warranty or otherwise for personal injury or for **Incidental or Consequential Damages**, including, without limitation, loss of use and lost profits. This warranty does not apply to defects or damages caused by misuse, improper maintenance, or improper installation of the Company's product or any equipment attached to or used in connection with the Company's product. The Company reserves the right to make changes or improvements to its products without incurring any obligation with respect to previously manufactured products. Field modification of this product without the expressed written permission of the Company constitutes a misuse of the product. The Company shall have no liability under this warranty until payment in full for the product in question has been made by the customer. The foregoing is the sole warranty made by the Company. No one is authorized to make other warranties on behalf of the Company.



Notes:



Safety



General Safety Requirements

This Brownie Systems Construction/Safety manual is written to assist and instruct those who are responsible for the complete Two Column Tower assembly, and for anyone using the completed Two Column Tower.

Global Industries, Inc. assumes no liability with respect to proper construction and inspection, assembly, or use of its products established under applicable laws, all of which is the sole responsibility of the purchaser and those doing the assembly work.

Appurtenances and the accessories manufactured by us for use with our products conform only to applicable Federal Safety Standards in effect at such time.

SAFETY COMPLIANCE

It is your responsibility as an owner or operator or supervisor, to know what specific requirements, precautions, and work hazards exist and to make these known to all other personnel working with the equipment or in the area, so that they too may take any necessary safety precautions that may be required.



WARNING! Watch For This Symbol: 

It Points Out Important Safety Precautions. It Means
“**ATTENTION**” - Become Alert! Your Safety Is Involved.

WORK AREA SAFETY STATEMENT

Under no circumstances should persons not involved in the operation be allowed to **trespass** into or be present in the work area.

It shall be the duty of all operators to see that children and/or other persons stay out of the work area! Trespass into the work area by anyone not involved in the actual operations, or trespass into a hazard area by anyone, shall result in an immediate shut down by the operator.

It shall be the responsibility of all operators to see that the work area has secure footing and is clean and free of all debris and tools which might cause accidental tripping and/or falling. It shall also be their responsibility to keep the work area clean and orderly during the operation.



PROPER PERSONNEL

To insure safe use of your Two Column Tower, be certain that only trained persons install, maintain, and use your Two Column Tower.

WORK AREA AND EQUIPMENT SAFETY

Do not operate your equipment without shields and guards in place. Failure to heed this warning may result in serious personal injury or death.

Care must be taken to avoid entanglement in equipment installed in or on a Two Column Tower. Securely lock-out all power, be it electrical or PTO, before working on or near such equipment.

Field modification of the Two Column Tower without the authorization of the manufacturer may present unknown dangers to the operator and must be avoided.

AUXILIARY EQUIPMENT SAFETY

You may decide to buy and install “auxiliary equipment” made by other manufacturers. Global Industries, Inc. has no control over the design and manufacture of this equipment. If you buy and install auxiliary equipment then at a minimum **we suggest that you do the following:**

- 1 Obtain, read, and understand the instructions and cautions of the auxiliary equipment manufacturer. Be certain all equipment is installed in agreement with the manufacturer’s instructions.
- 2 Check with Global Industries, Inc. or your dealer to make certain that your Two Column Tower is designed to support any additional loads supplied by the auxiliary equipment.
- 3 Obtain any applicable safety decals from the manufacturer of the auxiliary equipment and make certain they are displayed in a visible location.
- 4 Make certain all electrical equipment is properly installed and grounded by a qualified electrician.
- 5 Check availability and operation of electrical lock-out and emergency stop systems.
- 6 Be certain all guards and shields are securely in place.
- 7 Store all operations/maintenance manuals in a safe place available for future use.

OSHA OCCUPATIONAL SAFETY AND HEALTH ACT OF 1970

Certain purchasers of our products may be subject to the requirements and standards of the William-Steiger Occupational Safety and Health Act of 1970, which prescribes standards for use of appurtenances of our manufacture, such as handrails, platforms, stairways, fixed ladders, ladder cages, and guard rails. (Occupational Safety and Health Standards Section 1910.21 through 1910.32). Before installing these devices, familiarize yourself with the above Federal Standards.

At the time of manufacture, these **optional** items conform to applicable standards. Global Industries, Inc. assumes no liability with respect to proper construction, assembly, inspection, or use of its products under applicable laws, all of which is the sole responsibility of the purchaser and those doing the assembly work.

- A** Follow all climbing safety laws and regulations when climbing on all structures and when climbing at unsafe heights! Take care not to fall when working on Two Column Tower(s) or any time you are working from unsafe heights! Common sense dictates that such appurtenances should not be used when conditions such as rain or wind preclude their safe use. Brownie Systems strongly recommends that optional climbing equipment be purchased to meet the current specifications set forth by OSHA or ANSI whether the individual operator is required by law to do so or not. A properly secured safety belt should be used at all times when performing operations work or maintenance on Two Column Tower(s).
- B** Field modification of this tower or any auxiliary components or equipment without the authorization of the manufacturer may present unknown dangers to the operator and must be avoided.



WARNING! Make certain that all persons on **THIS TOWER** during construction are properly fastened to safety cables to prevent injury or death due to falling!



WARNING! Installation of accessories or equipment in or on **THIS TOWER** that would over stress the structure in any manner will void the Warranty. If you do not have specific recommendations from Brownie Systems, where additional loading is involved, please contact the Brownie Systems before installing any such appurtenances or equipment.

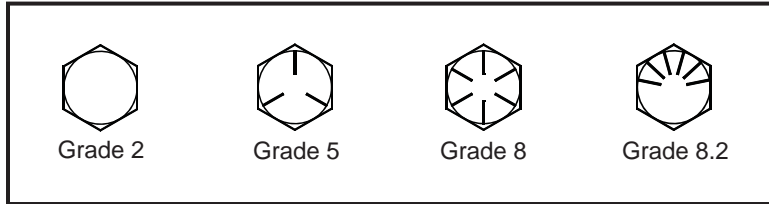


WARNING! Make certain all persons within the work area on ladders, lifts, crane lifts, scaffolds, or the like are secure and not in danger of falling! And, make certain work surfaces are clean and free of clutter.

2

Bolt Torque

Bolt Identification



Bolt Torque Values

Bolt Diameter	Torque			
	SAE Grade 2	SAE Grade 5	SAE Grade 8	SAE Grade 8.2
3/8"	20 ft-lbs, 27 Nm, 2.7 kgf-m	25 ft-lbs, 33 Nm, 3.4 kgf-m		
7/16"	32 ft-lbs, 43 Nm, 4.4 kgf-m			
1/2"	49 ft-lbs, 66 Nm, 6.8 kgf-m		110 ft-lbs, 149 Nm, 15.2 kgf-m	
5/8"	90 ft-lbs, 122 Nm, 12.4 kgf-m	170 ft-lbs, 230 Nm, 23.5 kgf-m	210 ft-lbs, 284 Nm, 29.0 kgf-m	
3/4"		307 ft-lbs, 416 Nm, 42.4 kgf-m	380 ft-lbs, 515 Nm, 52.5 kgf-m	
7/8"		465 ft-lbs, 630 Nm, 64.3 kgf-m	610 ft-lbs, 827 Nm, 84.3 kgf-m	
1"			910 ft-lbs, 1,233 Nm, 125.8 kgf-m	

Use the torque values listed in the table above for all catwalk hardware connections!



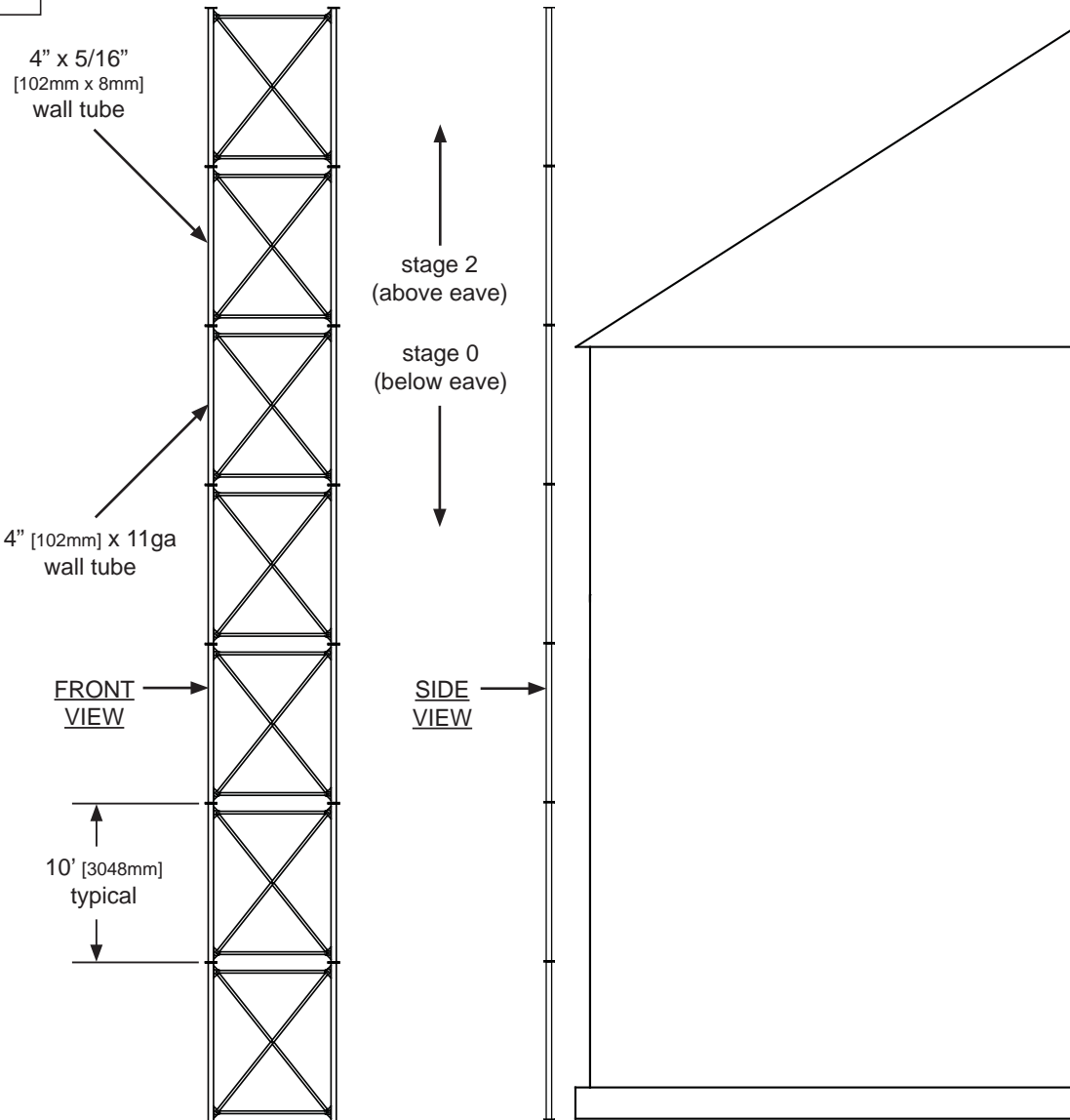
WARNING! CRITICAL: The correct bolts as specified and provided by Brownie Systems must be used throughout the entire assembly of this Two Column Tower! And, the correct bolt torques as indicated in the table above must be achieved throughout the entire assembly! Using the wrong bolts or not achieving the correct torque values could result in the structural damage or failure of this Two Column Tower!

3

Tower Installation

1

Assemble the Tower, Use a Crane

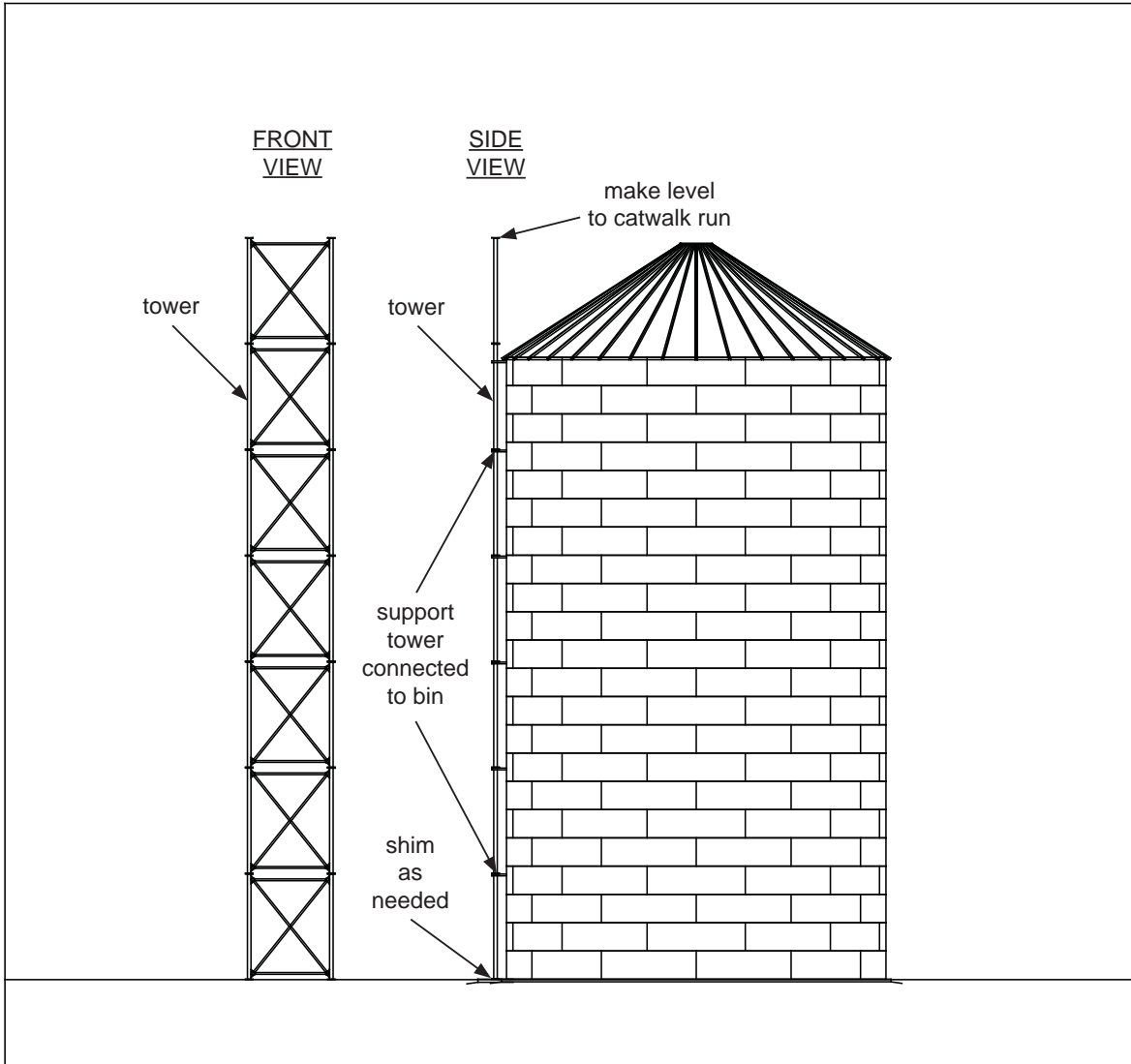


Complete the tower assembly on the ground. Correctly tighten all connections. Use a crane to lift the tower into place on the foundation. **Follow the instructions and drawings on the following pages to complete the Tower installation.**



2

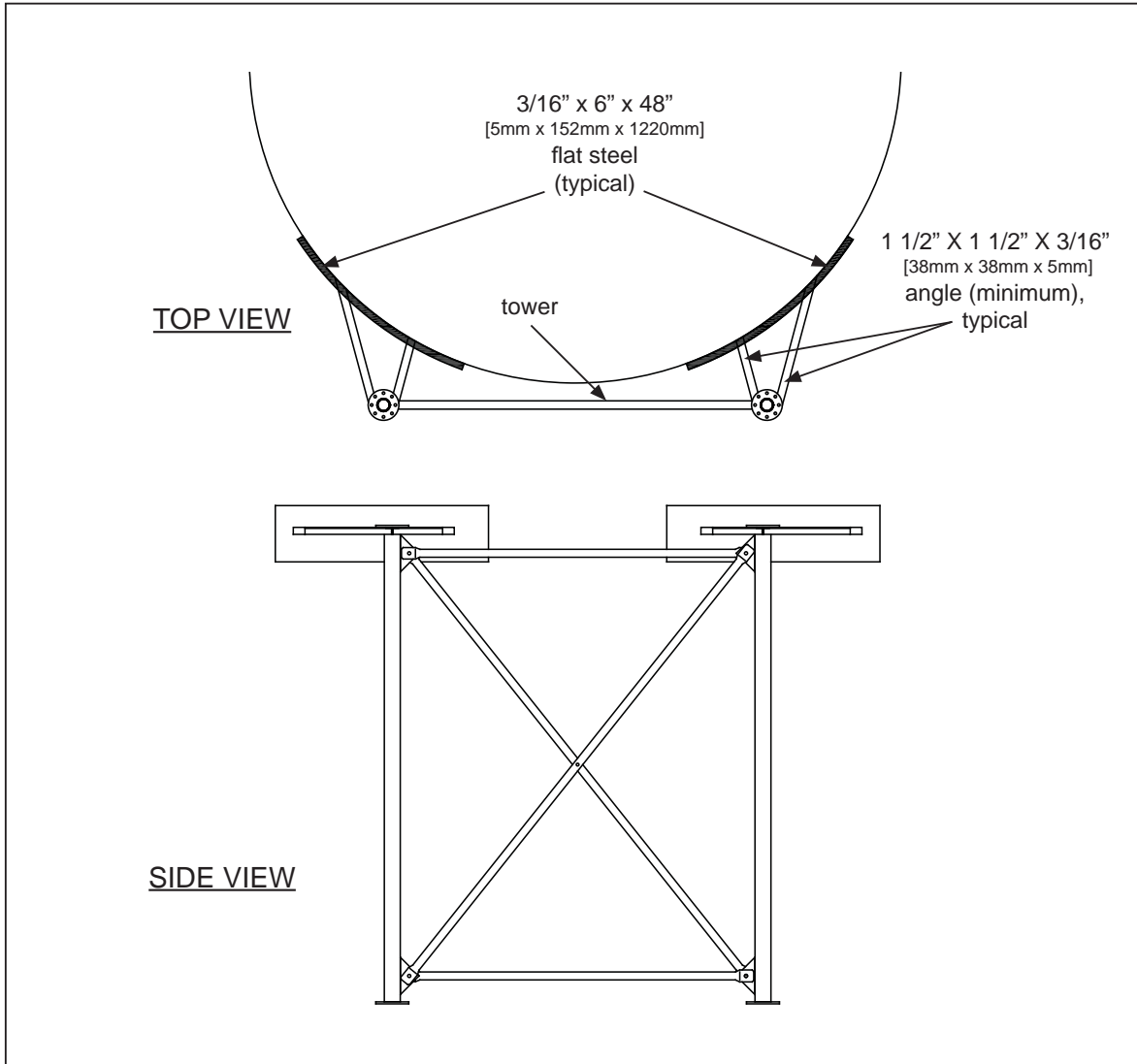
Position and Install the Tower to the Foundation



Position the tower so it is correctly in line to support the catwalk (or overhead conveying system). If necessary, shim between the column plates and the foundation as needed to level the tower. Install the tower to the foundation using (4) adequately sized anchors bolts (not supplied by Brownie Systems). (Consult your foundation design engineer for anchor sizes). Plumb the tower.

3

Securely Connect the Tower to the Bin

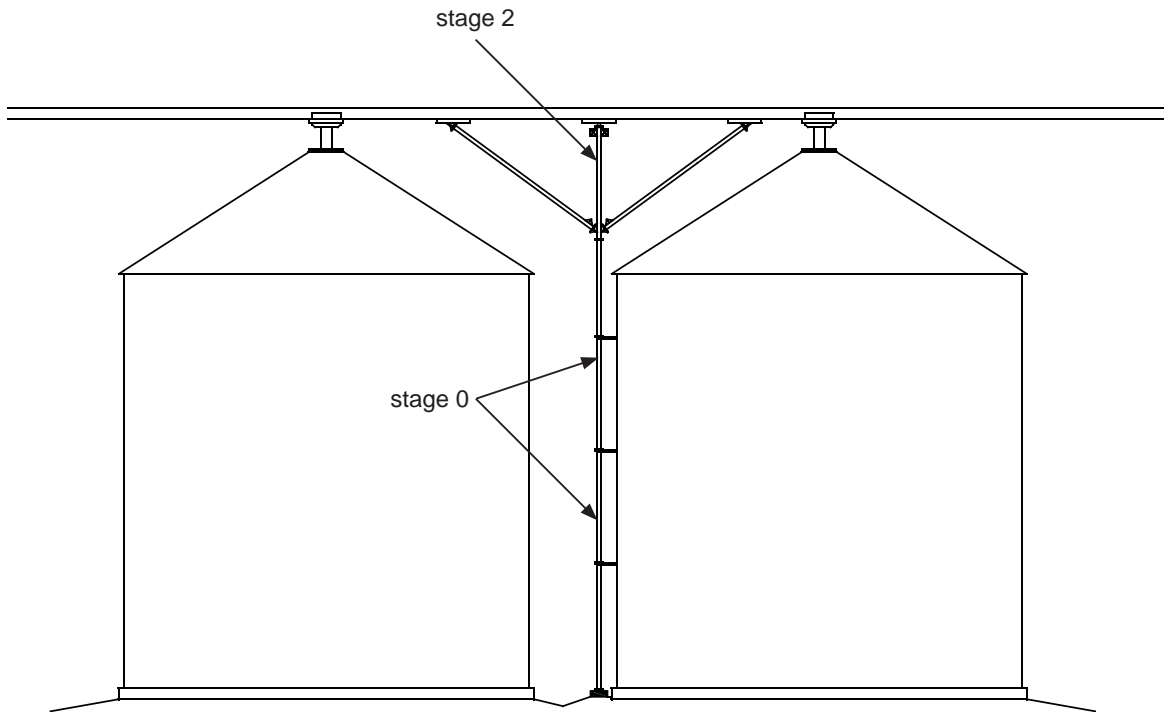


Use 1 1/2" x 1 1/2" x 3/16" [38mm x 38mm x 5mm] angle iron to connect the tower to the bin. Connect the tower to the bin at the bin stiffeners (typically at 10' [3048mm] spacing) See [this page](#) and the [previous page](#). Connect the tower to the bin at each tower section splice joint below the bin eave. Tie the tower to the bin at each and every tower section splice joint. All tower section splice joints must connect either to the bin or to knee braces.



4

Install Knee Braces to the Tower



WARNING! In order to correctly support the tower upper sections, knee braces must be installed from the catwalk down to each tower section splice joint above the bin eave!

Correctly support all overhead conveying equipment. Use 1 1/2" x 1 1/2" x 3/16" [38mm x 38mm x 5mm] angle iron (minimum). Knee bracing must extend in both directions along the overhead conveying equipment run as shown above!

Index

A

accessories 7
additional loading 9
anchors bolts 12
angle iron 13
ANSI 9
assemble the tower, use a crane 11
assembly 7
auxiliary equipment safety 8

B

be alert 2
bin connections 13
bin eave 14
bolt identification 10
bolt torque values 10

C

catwalk 14
climbing 9
climbing equipment 9
contents 4
conveyors 14
crane lifts 9

E

engineer 12
equipment 3

F

foundation connection 12

G

general safety requirements 7
general safety statement 3

H

hazards 3, 7

I

inspection 7
install knee braces to the tower 14

K

knee braces 13, 14

L

ladders 9
lifts 9
lock-out 8

M

manuals 8

O

occupational safety and health act of 1970 9
OSHA 9
overhead conveying equipment 14

P

personnel 3, 7
position and install the tower to the foundation 12
precautions 3
preface 3
proper personnel 8



S

safety 2, 3, 7
safety belt 9
safety cables 9
safety compliance 7
safety decals 8
safety requirements 3
scaffolds 9
securely connect the tower to the bin 13
shims 12
stiffeners 13

T

tower installation 11
tower section splice joints 13, 14
tower upper sections 14

W

warning decals 8
warranty 5
wind / weather 9
work area 7
work area safety statement 7
work hazards 7

Recent Significant Manual Changes:

10-08 [1] Revision Changes

- 1** An index was added.
- 2** Page 1. SI units were added.
- 3** Page 3. The General Safety Statement was added.
- 4** Page 4. The Contents were updated.
- 5** The Safety section of this manual was updated and revised.
- 6** Page 10. Bolt Identification and Torque Values were added.
- 7** Pages 11, 13, and 14. Additional SI units were added.
- 8** Pages 13 and 14. The text on these pages was revised.
- 9** Page 14. A warning was added.
- 10** Other minor changes were made throughout the manual.



GLOBAL INDUSTRIES, INC.

for information on other Global Industries products see: — www.globalindinc.com —

for information on other Brownie Systems products see: — www.go-brownie.com —

BROWNIE SYSTEMS

P. O. Box 2105 • Grand Island, Nebraska 68802 - 2105, U.S.A.

(800) 228 - 4285 • FAX (308) 382-6954

© 2008 Global Industries, Inc. All rights reserved.