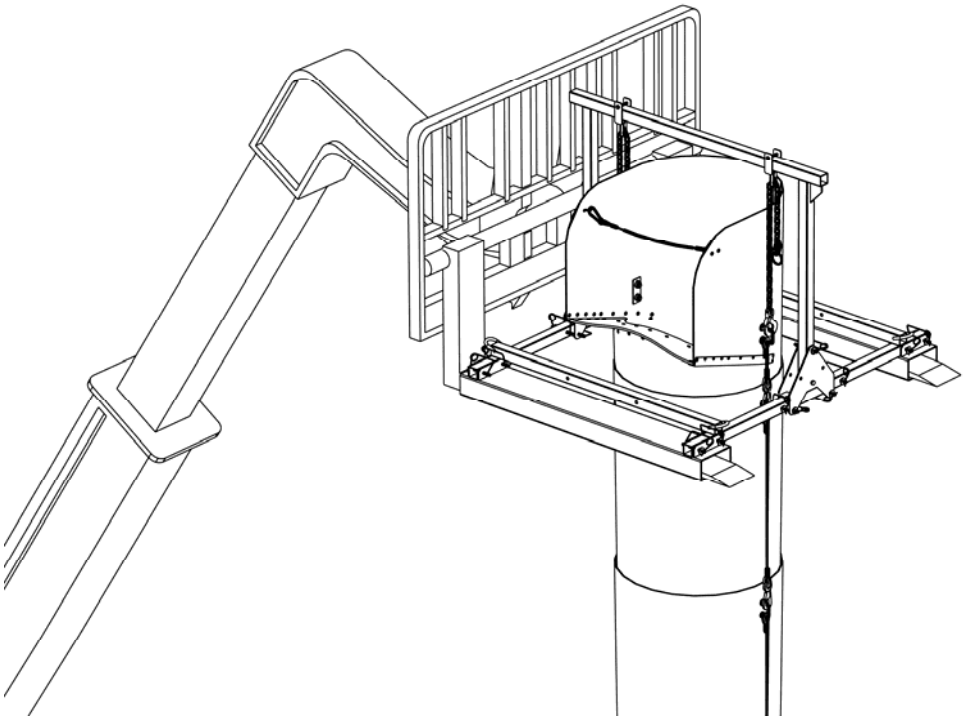
SUPERCHUTE® DEBRIS REMOVAL SYSTEM

CHUTE HOIST INSTALLATION MANUAL



For Forklift Frame Model N° SC-900-f

SUPERCHUTE® FACTORY

- toll free: 800-363-2488
- telephone: 514-365-6121
- facsimile: 514-365-8987
- internet: www.superchute.com
- e-mail: info@superchute.com
- address: 8810 Elmslie Road, Montreal, Canada, H8R 1V6

Edition of Oct 4, 2016

IMPORTANT REFERENCE DOCUMENT

IMPORTANT NOTICE:

IT IS THE RESPONSIBILITY OF COMPANIES THAT SELL, RENT OR USE THE SUPERCHUTE® PRODUCT TO FREELY SUPPLY THE LATEST EDITION OF THIS MANUAL TO THE FOLLOWING PERSONS:

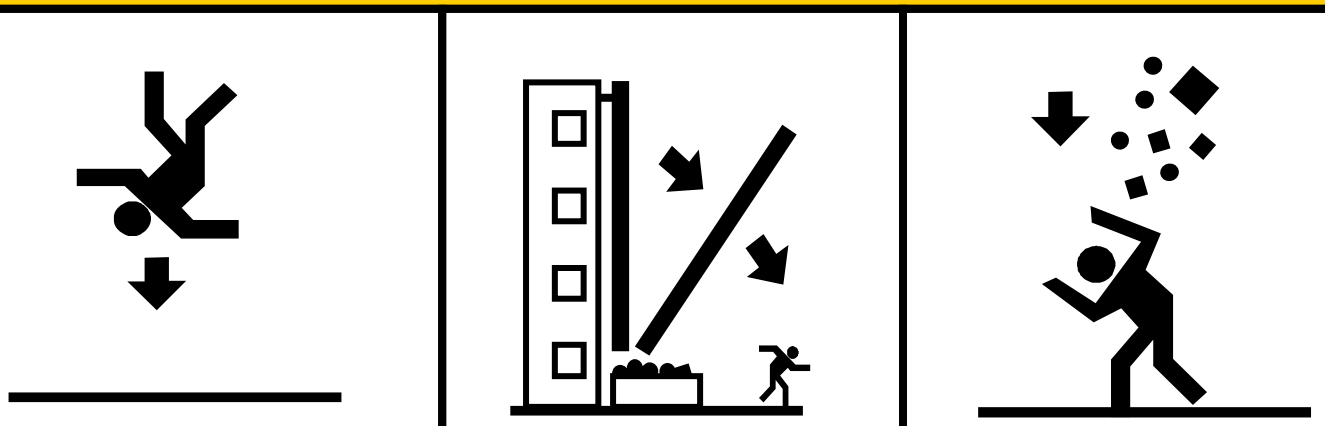
- **THE PLANNERS AND SUPERVISORS OF THE CHUTE SYSTEM**
- **THE INSTALLERS OF THE CHUTE SYSTEM**
- **THE USERS OF THE CHUTE SYSTEM**

If you have any questions or comments concerning this manual, please feel free to contact Superchute Ltd.

This manual refers to the following products, which are protected by international patent laws:

Door Sections	Wraparound® Regular Sections	Chute Hoists
U.S. Pat. No. Des. 328,174 Can. Ind. Des. 1990 RD 66842	U.S. Pat. 5,472,768 Can. Pat. 2,119,108 U.K. Pat. 2,276,151	U.S. Pat. 5,934,437 Can. Pat. Application 2,177,741

WARNING



- The installation and use of a Superchute Chute System involves many hazards, for example, the risk of:

  - a worker falling off a building
  - a blockage in the chute causing the chute system to collapse
  - a person being struck by falling debris

- Failure to follow Superchute's instructions may result in serious injury or death.

- Planners, Supervisors, Installers, and Users must read, understand, and follow the instructions found in these manuals before rigging or using a chute system:

  1. The "Chutes Manual"
  2. The applicable "Chute Hoist Installation Manual(s)"

- For copies of these manuals contact Superchute® Ltd: **1-800-363-2488**
  or download them from www.superchute.com

HOW TO USE THIS MANUAL

Many people read this manual from beginning to end when they first receive their chute hoist. The manual explains the hoist's features and the procedures for using it safely.

In this manual, you'll find that pictures and words work together to explain things quickly.

A) USE THE MOST RECENT EDITION

- Each new edition of the SC-900-f Chute Hoist Installation Manual contains important new information.
- ALWAYS USE THE MOST RECENT EDITION: Compare the edition date of this booklet (printed at the bottom of every page) to the edition available for download on the Superchute website: www.superchute.com. Use the edition with the most recent date. If you do not have access to the internet, call Superchute (1-800-363-2488) and ask a representative for assistance.
- The instructions in a new edition supersede any instruction found in a prior edition.
- Avoid confusion: discard any old SC-900-f Chute Hoist Installation Manuals.

B) IF USING THIS MANUAL EDITION WITH AN OLDER HOIST

Over time, improvements have been made to the design. If you are using this manual with an older hoist, you may find some of the sketches do not match the product you have. If you are unsure of how to proceed, call the Superchute® Factory: 1-800-363-2488.

Older hoists can be upgraded to reflect the latest improvements. Contact the Superchute® factory for details.

C) USE THE TABLE OF CONTENTS

A good place to look for what you need is the Table of Contents located on page 6 of the manual. It's a list of all that's in the manual along with the page number where you'll find it.

D) SAFETY WARNINGS AND SYMBOLS

You will find a number of safety warnings in this book. Safety warnings tell you about things that could hurt you, or others, if you were to ignore the warning. We use the following symbol to attract your attention to the warning:

⚠ WARNING

A warning indicates a potentially hazardous situation which, if not avoided, could result in death or serious injury.

Here is an example of a Superchute® warning:

⚠ WARNING

Hazard

- A ramp resting on the Forklift Frame could greatly increase the loading on the forklift.

Consequence

- The load increase could cause the forklift to topple.

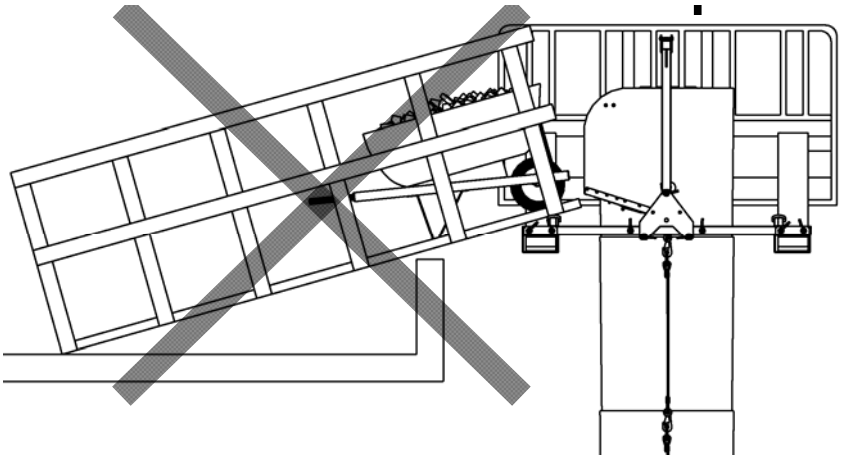
Instruction

- Do NOT rest ramps on the Frame. Do NOT attach ramps to the Frame. Ramp designs must be approved by a structural engineer.

Pictorial (optional)

WRONG:

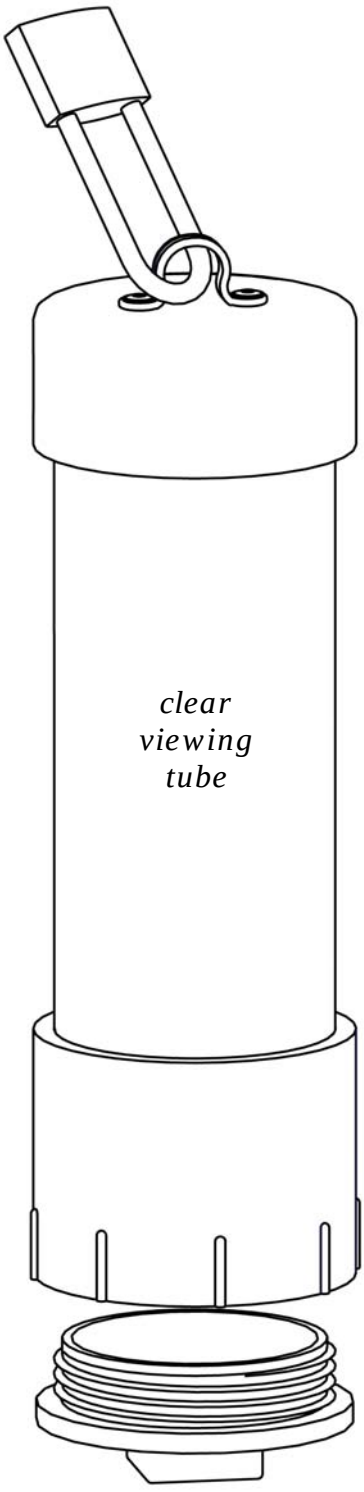
The wheelbarrow ramp increases the load on the forklift.



E) STORE THE MANUAL IN THE SUPERCHUTE DOCUMENTS CANISTER

Use a canister at the jobsite to:

- protect and store the manual.
- make the manual readily available to users of the Hoist.



The canister is virtually indestructible and weatherproof. It features a clear plastic viewing tube that allows users to see its contents. The canister is supplied with a brass padlock to allow it to be locked to the hoist.

An on-site canister protects your workers and your company by ensuring greater jobsite safety. Use the canister as part of your overall safety program.

Color pictures with more explanations are provided on the Superchute website: www.superchute.com.

TABLE OF CONTENTS

1. INTRODUCTION

Welcome to safer, quicker, and easier chute installations!

The Superchute® Forklift Frame is used to safely suspend a chute from a telescopic forklift.

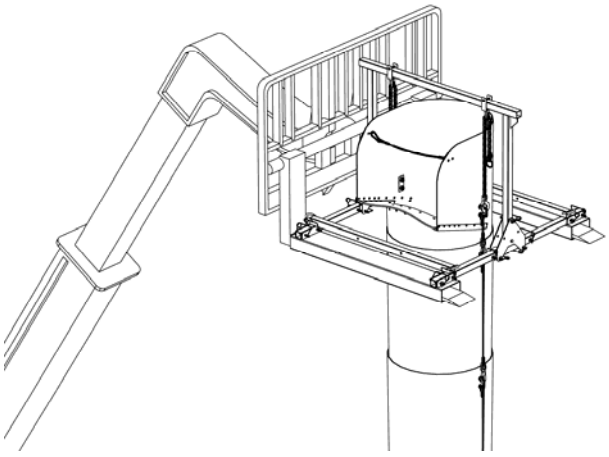
Using a telescopic forklift to support a chute is helpful when:

- the contractor wants to be able to rapidly move the chute to different dumping stations around the building.
- the chute is only needed for a few hours.
- the building cannot accommodate the installation of any on-board chute hoist (example: a steep slope roof).
- the use of a scaffold as a chute support is impractical.

This installation manual concerns model SC-900-f, which will support up to 900 lb. of chute. A 900 lb. chute load translates into approximately 70 feet of 30" diameter chute (21 chute sections). The length of chute that can be created depends on the diameter of chute to be used, and must be calculated (refer to Section 7 in this manual entitled: **Assess Chute Height & Weight**).

The unit uses a few locking pins. No tools are needed. The design features:

- a 3:1 safety factor.
- no loose pieces.
- adjustable channel spacing for fork blades.
- a space-saving folding mast.



Understand the Name:

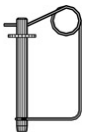
SC-900-f

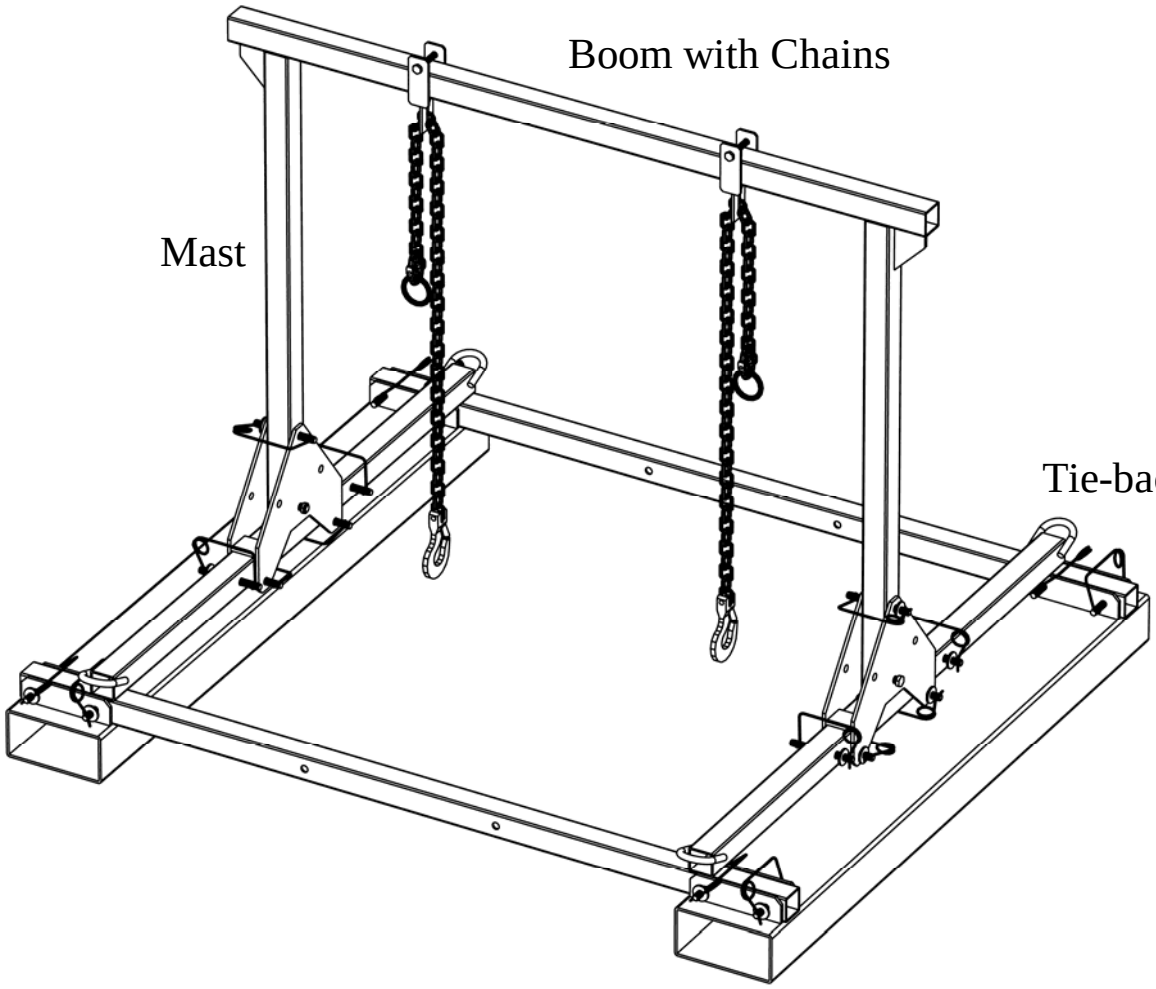
- Superchute® Design
- Max. chute load is 900 lb.
- For forklift use

U.S. Pat. 5,934,437

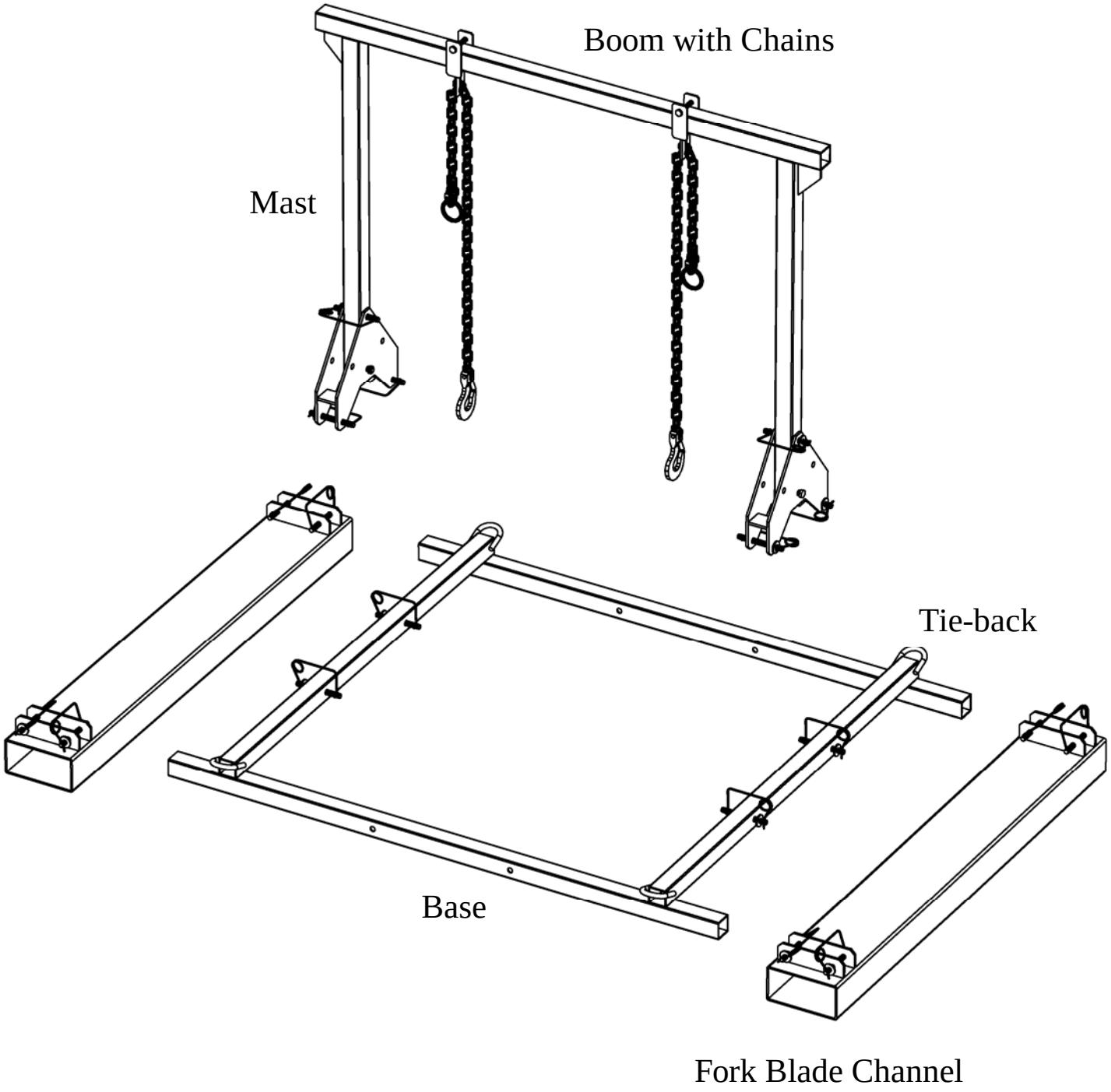
2. IDENTIFY THE PIECES

18 Pins

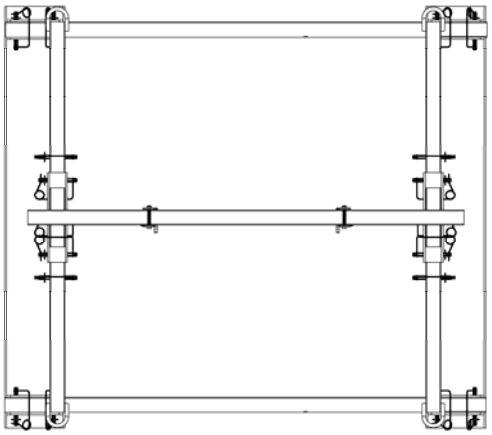


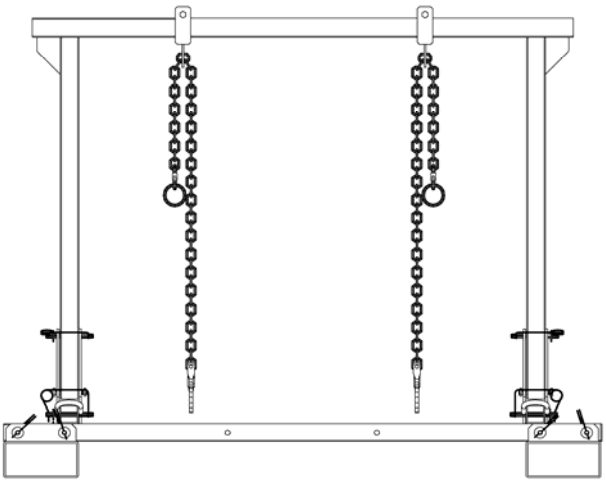


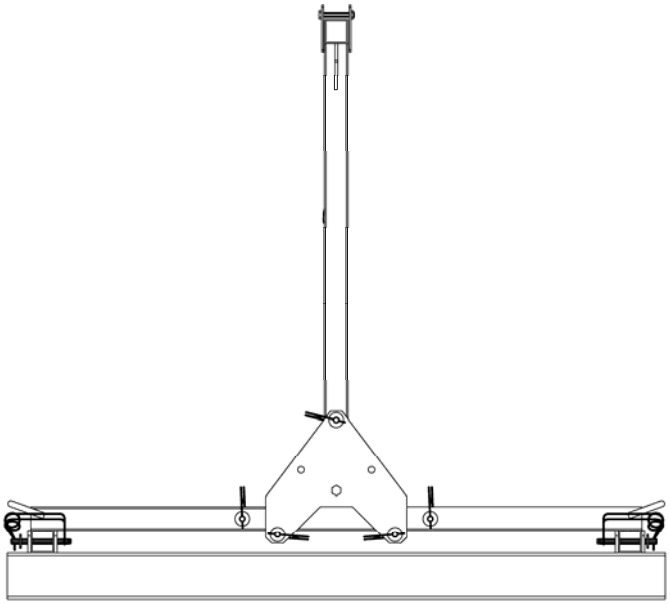
Exploded View



3. DIMENSIONS







4. IMPORTANT INFORMATION

Applicable Regulations:

Before rigging or using the chute system, planners, supervisors, installers and users should be aware of applicable federal, state, and local safety regulations.

Additional Expertise

This manual should not be taken as an overall survey on rigging technique, fall protection, or structure appraisal. Whenever these considerations arise, the planners, supervisors, installers and users of the chute system should secure the services of trained professionals.

Availability of the Manual:

Planners, supervisors, installers and users of the chute system must be able to refer to this manual at any time. Copies of this manual are available from Superchute Ltd. free of charge, **by mail or fax, and can be downloaded from the Superchute® web site at:** www.superchute.com. If this manual is not with the chute system on the job site, postpone installation and use of the chute system until a manual is obtained.

Condition of the Equipment

Every time the chute is to be rigged or used, make sure the following items are in good condition: Superchute® hoist(s), Superchute® cable assemblies, Superchute® chute sections, Superchute® steel liners, and any other ancillary Superchute® equipment, such as door adjustment kits and tie-back kits. Thorough overhaul servicing is available from Superchute Ltd.

Condition of the Workers

Superchute® equipment should only be used by workers who are fit to operate it in a responsible manner.

Corrosive Substances

Keep corrosive substances away from all hoist components.

Engineered Rigging Equipment

Use engineered rigging equipment to install and anchor chute sections (for example, a Superchute® chute hoist)

Fire Prevention

Do not weld or flame-cut within 20 ft. of the hoist or chute.

Help Line

If at any time you are unsure of how to proceed call Superchute Toll Free: 1-800-363-2488

Intent of the Product

Do not use the chute hoist to lift or lower materials other than a Superchute® trash chute. Do not use the chute hoist as a man-hoist.

Lightning Storm

During a lightning storm stay away from the hoist & suspended chute system.

Other Brands of Chute

Do not mix Superchute® chute sections with chute sections of another brand.

Parts

Do not replace original Superchute® parts with non-Superchute® parts.

Powered loaders

Do not use powered loaders to introduce debris into the chute.

Prevent Electrocution

Install the hoist and chute in an area free of electric cables. If cables are present contact your local electrical authority before proceeding.

Structural Engineer

Before a chute installation begins, a structural engineer must verify the adequacy of the supporting structure.

Training

A one-day training seminar is offered free of charge at the Superchute® factory. The seminar examines the proper installation and use of Superchute® chute sections and chute hoists. Call 1-800-363-2488 for details.

5. ASSESS CHUTE HEIGHT & WEIGHT

EXAMPLE

- The first step in undertaking a chute installation is to formulate an installation plan.
- This page is a planning tool, which is used here to illustrate an imaginary chute job.
- The next page is clean and is for your own use. Photocopy it and use it to plan your chute installations.

JOB NAME: Hotel On First Ave.

1. What is the anticipated height of the chute? 60' feet.

2. How many chute sections will be needed? Height in ft x 3 ÷ 10 = 18 sections.
   60 feet x 3 divided by 10 = 18
   When linked, 3 chute sections of any type will create a 10 foot drop.

3. What diameter of chute will be used? **[18"] [23"] [27"] [30"] [33"] [36"]**
   Every chute section is branded with its diameter.

4. Calculate the total weight of the chute system using the form below:
   Every chute section is branded with its weight.
   Section Weights are also provided on page 16.

Chute Weight Calculation Form

(A)	1	Top Hopper Wraparound	x	42	lb. each	=	42 lb.
(B)	2	Door Sections Wraparound	x	52	lb. each	=	104 lb.
(C)	15	Regular Sections Wraparound – 3/16" wall	x	39	lb. each	=	585 lb.
(D)	3	Steel Liners	x	40	lb. each	=	120 lb.

A+B+C+ D = The Total Weight Of The Chute System = 851 lb.

5. Does this weight exceed 900 lb? If "YES", then model SC-900-cb is not adequate.
   Call the Superchute® factory if your chute weight will exceed 900 lb.

No. The weight of the chute and liners is 851 lb. which is less than 900 lb.

OK – Proceed!

ASSESS CHUTE HEIGHT & WEIGHT – Photocopy this page

Before the chute is rigged it's height and weight must be calculated. Photocopy this form and use it with the weight charts provided on the next page. Knowing the total weight of the chute allows the installer(s) to choose an appropriate lifting device and suitable anchors. If at any time you would like to discuss the particulars of your job situation, please feel free to call the Superchute® factory: 1-800-363-2488.

JOB NAME: _____

1. What is the anticipated height of the chute? _____ feet.

2. How many chute sections will be needed? Height in ft x 3 ÷ 10 = _____ sections.
   When linked, 3 chute sections of any type will create a 10 foot drop.

3. What diameter of chute will be used? **[18"] [23"] [27"] [30"] [33"] [36"]**
   Every chute section is branded with its diameter.

4. Calculate the total weight of the chute system using the form below:
   Every chute section is branded with its weight.
   Section Weights are also provided on the next page.

Chute Weight Calculation Form

(A)	**1**	Top Hopper	x	_____ lb. each	=	_____ lb.
(B)	_____	Door Sections	x	_____ lb. each	=	_____ lb.
(C)	_____	Regular Sections	x	_____ lb. each	=	_____ lb.
(D)	_____	Steel Liners	x	_____ lb. each	=	_____ lb.

A+B+C+ D = The Total Weight Of The Chute System = _____ lb.

5. Does this weight exceed 900 lb? If "YES", then model SC-900-cb is not adequate.
   Call the Superchute® factory if your chute weight will exceed 900 lb.

WARNING

The frame weighs 270 lb. The combined weight of the frame and the chute must NOT exceed the capacity of the forklift.

6. CHUTE SECTION WEIGHT CHARTS

- An "x" signifies that no such section exists.
- If using steel liners, do not forget to account for their weight.

WELDED SECTIONS WEIGHTS (in lb.)

Diameter	Wall Thick.	Regular	Top Hopper	Door
18"	**5 mm**	23	24	29
23"	**5 mm**	27	30	36
27"	**5 mm**	32	34	41
30"	**5 mm**	37	40	47
30"	**4 mm**	27	X	X
30"	**3.2 mm**	X	X	X
33"	**5 mm**	40	42	50
36"	**6 mm**	48	53	60

WRAPAROUND® SECTIONS WEIGHTS (in lb.)

Diameter	Wall Thick.	Regular	Top Hopper	Door
18"	**5 mm**	X	X	X
23"	**5 mm**	29	30	40
27"	**5 mm**	35	40	49
30"	**5 mm**	39	42	52
30"	**4 mm**	31	X	X
30"	**3.2 mm**	28	X	X
33"	**5 mm**	43	48	57
36"	**6 mm**	49	57	68

LINER WEIGHTS (in lb.)

18"	23"	27"	30"	33"	36"
23 lb.	**32 lb.**	**37 lb.**	**40 lb.**	**48 lb.**	**53 lb.**

7. A FEW FALL PROTECTION REGULATIONS

"The employer shall determine if the walking/working surfaces on which its employees are to work have the strength and structural integrity to support employees safely. Employees shall be allowed to work on those surfaces only when the surfaces have the requisite strength and structural integrity."

"Each employee on a walking/working surface ... with an unprotected side or edge which is 6 ft or more above a lower level shall be protected from falling by the use of guardrail systems, safety net systems, or personal fall arrest systems."

"An unprotected side or edge means any side or edge ... where there is no wall or guardrail system at least 39" high."

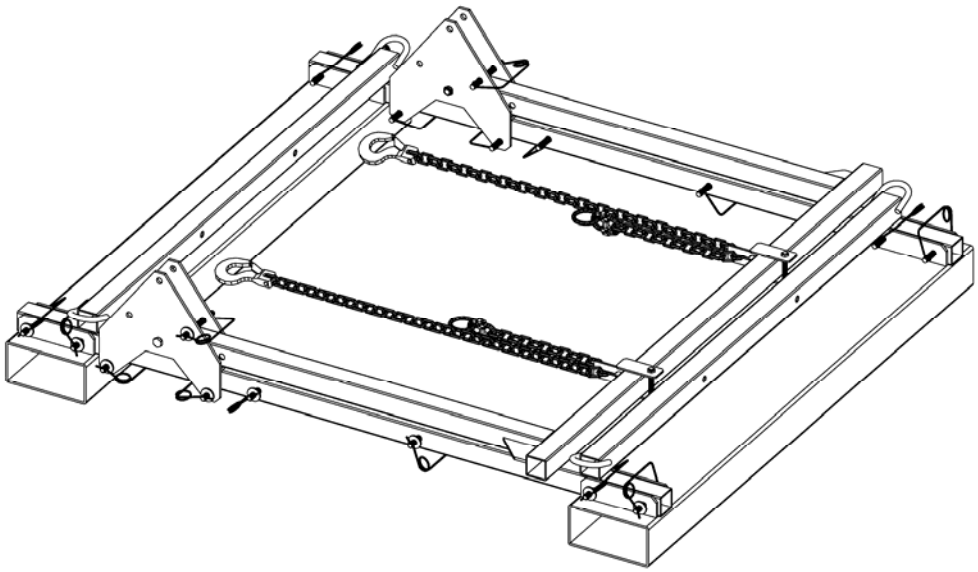
"Each employee in a hoist area shall be protected from falling 6 feet or more to lower levels by guardrail systems or personal fall arrest systems. If guardrail systems ... or portions thereof, are removed to facilitate the hoisting operation ... and an employee must lean through the access opening or out over the edge of the access opening (to receive or guide equipment and materials, for example) that employee shall be protected from fall hazards by a personal fall arrest system."

From OSHA Part 1926 Safety and Health Regulations for Construction, Subpart M, Fall Protection

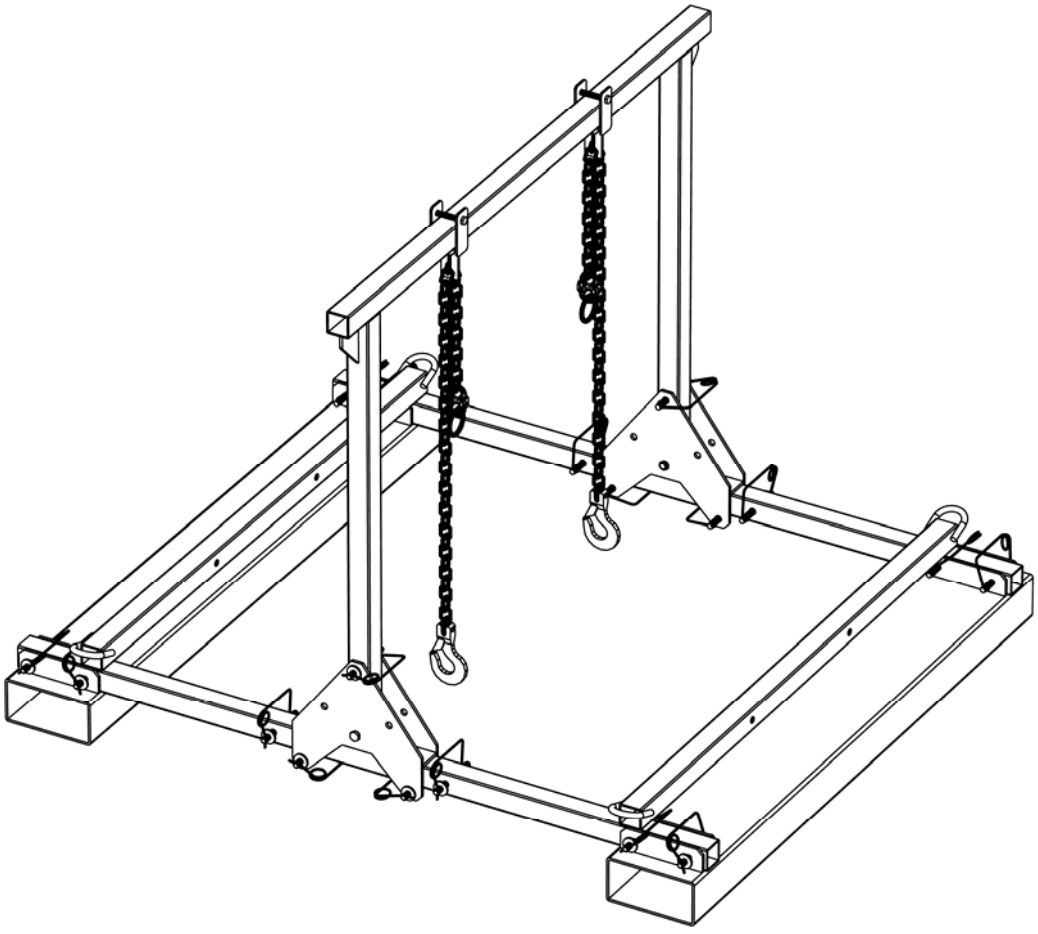
For a more complete understanding of the OSHA Regulations you can:

- Consult OSHA's excellent online documentation on the internet: www.osha.gov.
- Telephone the OSHA bookstore (206) 553-4270 and order the OSHA Regulations on CD-ROM (price $53).
- Telephone the OSHA bookstore (206) 553-4270 and order **29 CFR Part 1926** in print (price $30).
- Some states have their own regulations, which will differ from the U.S. Dept. of Labor's OSHA regulations.

8. RAISE THE MASTS



- Raise the masts and pin in place.



WARNING

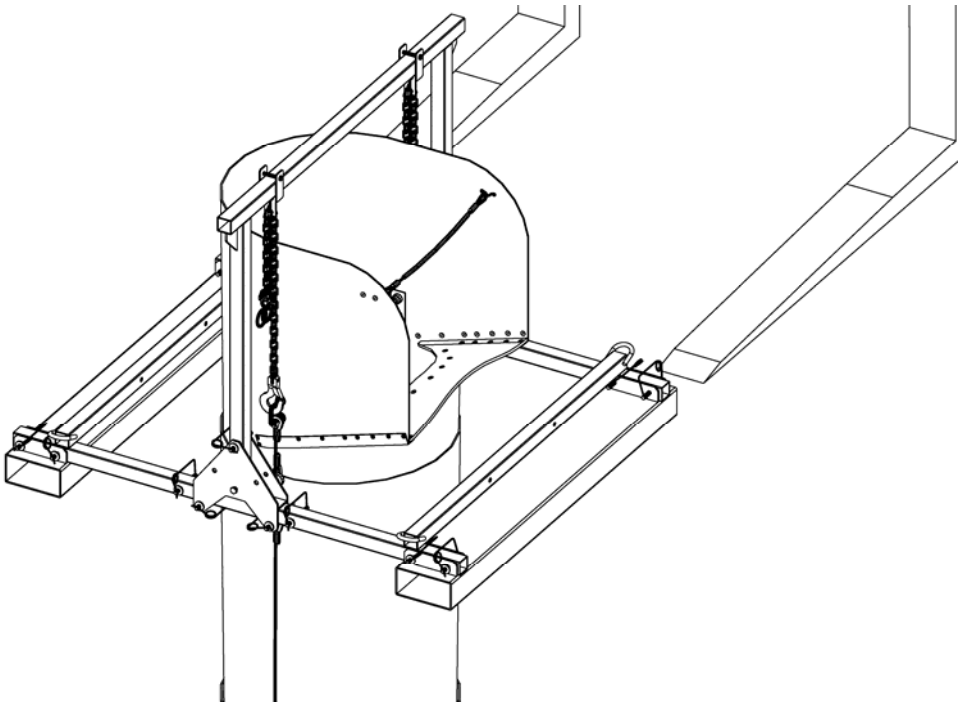
- The frame may fail when load is applied if the correct pins are not used.
- A falling load can seriously injure or kill.
- Use only the pins that were supplied with this hoist (see “Pin Info” below).
- To prevent pin loss, store the pins on the unit.
- Order replacement pins from Superchute Ltd.

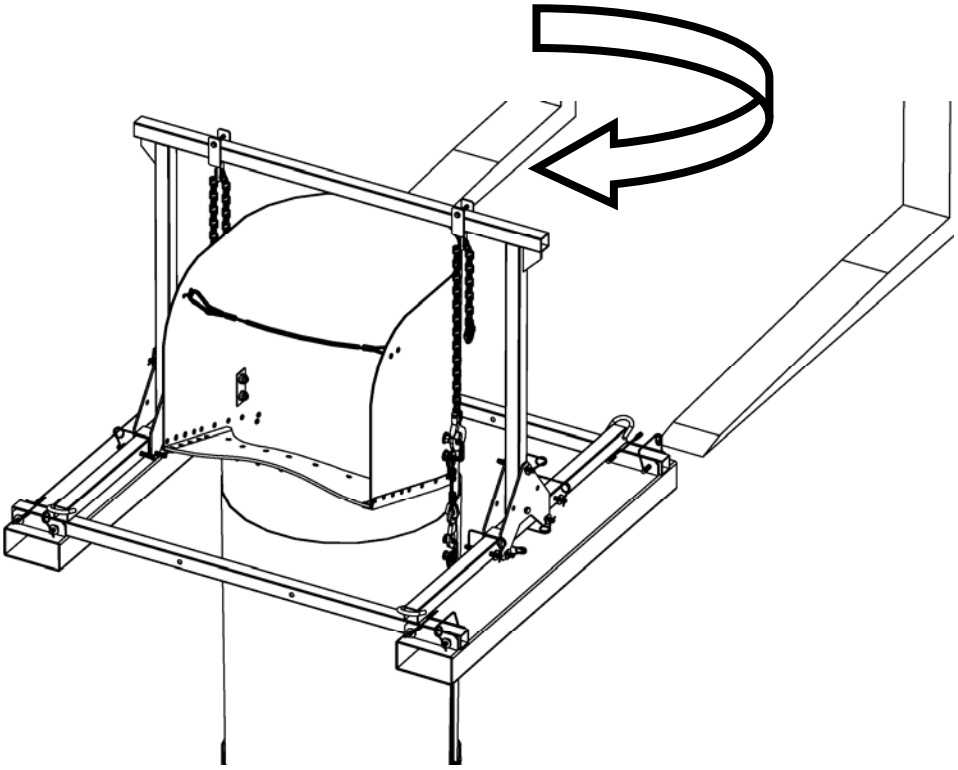
Pin Information:

- 14 pins are required to assemble and use the Forklift Frame
- 2 spare pins are provided with every frame.
- All of the pins used on the SC-900-f are identical:

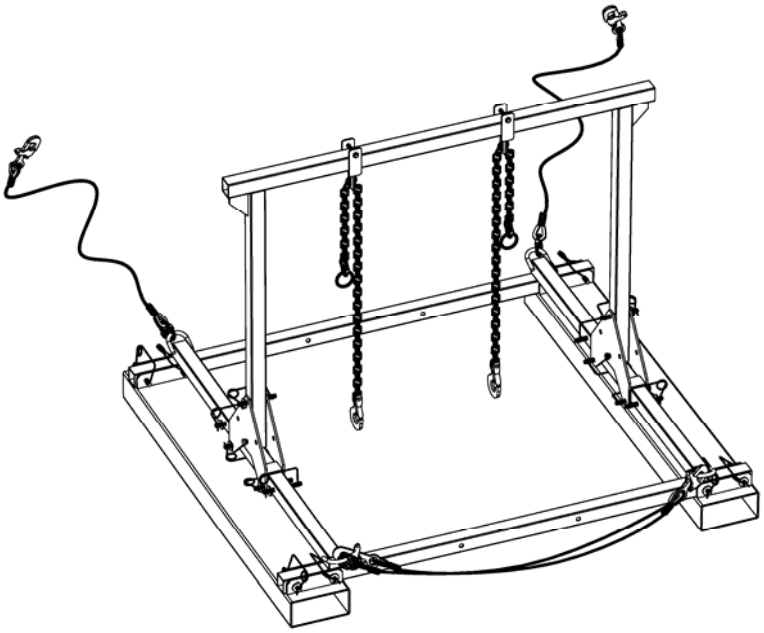
- Diameter: ½”
- Overall Length: 7 ¼”
- Usable Length: 6 ½”

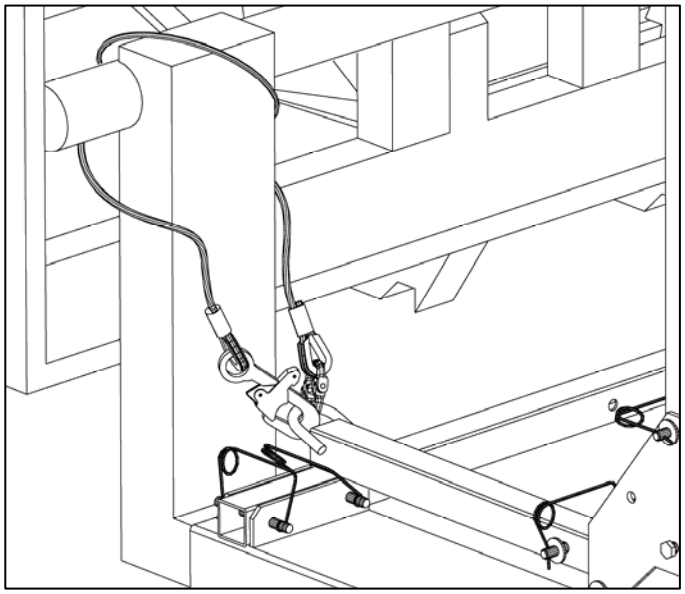
9. DECIDE ON THE ORIENTATION OF THE HOPPER

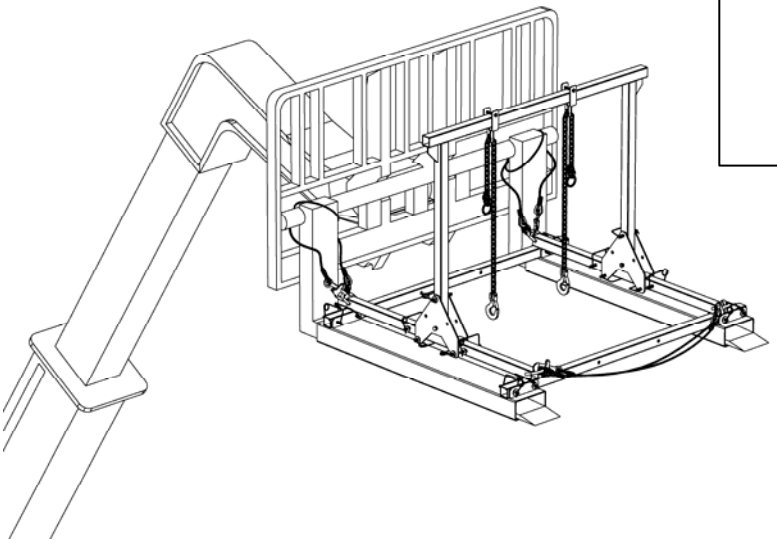




10. SECURE THE FRAME TO THE FORKLIFT

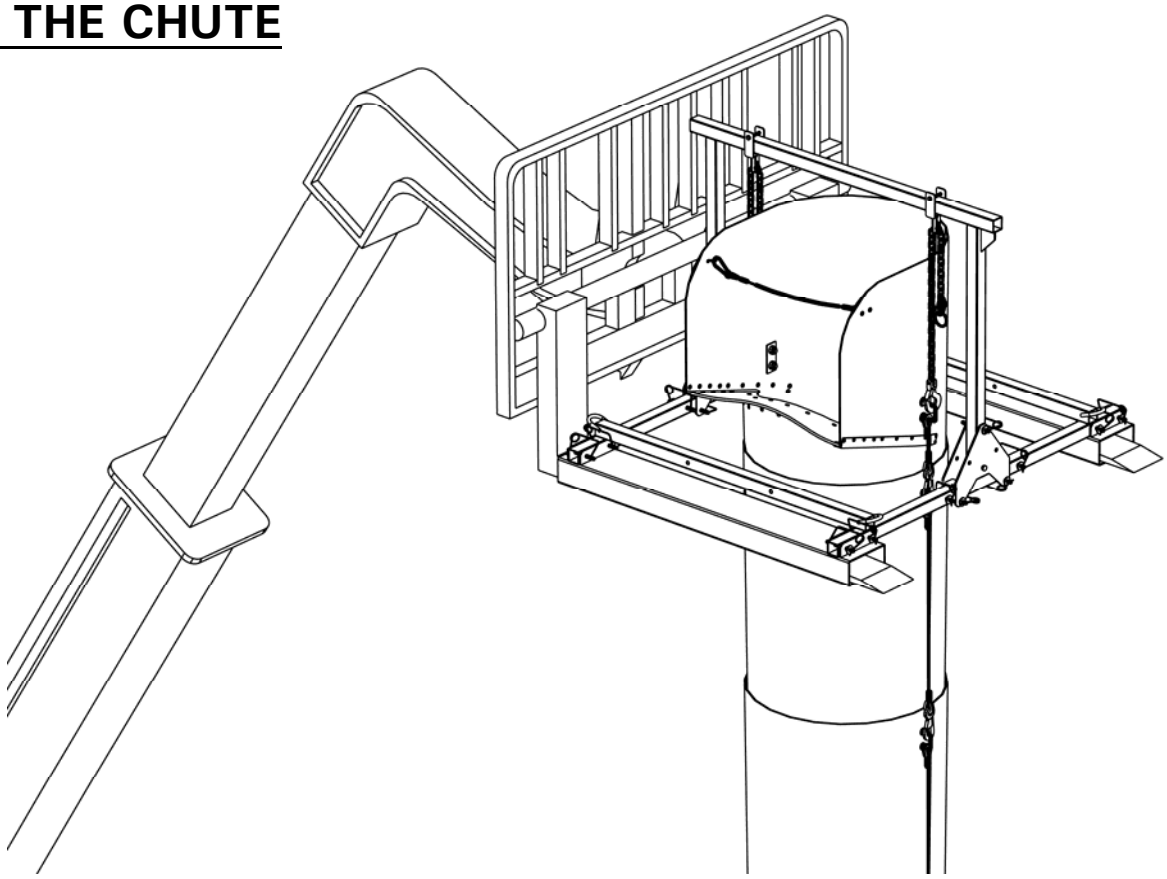






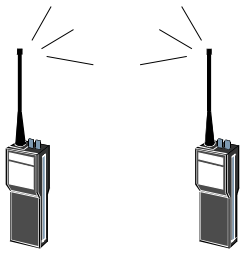
- The frame is equipped with 4 lanyards (one at each corner).
- Using the 2 lanyards that are closest to the fork cage, secure the frame to the forklift.

11. RAISE THE CHUTE



Communication:

Chute installers should use 2-way radios (walkie-talkies) to communicate with each other.

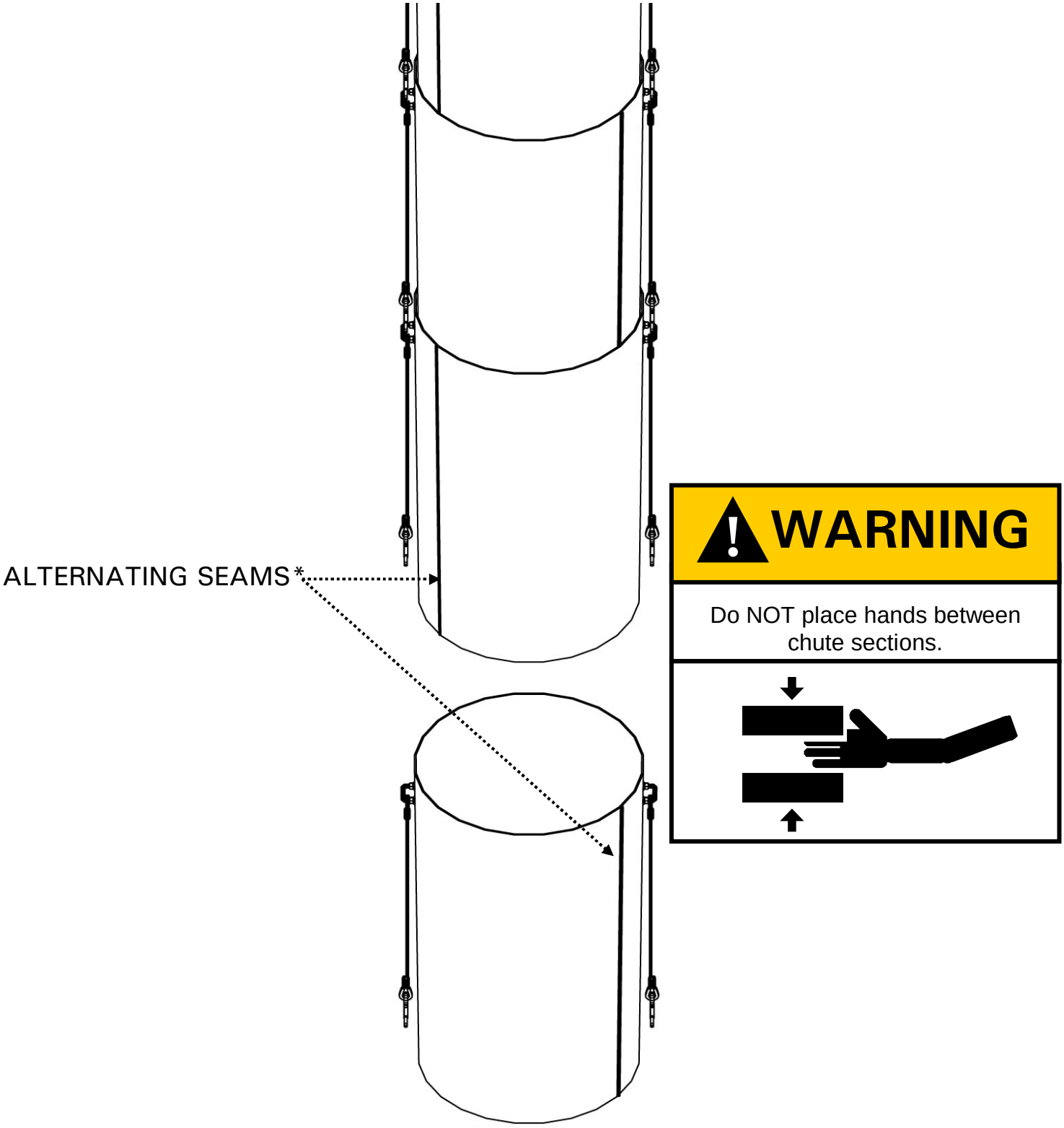


⚠ WARNING

- GROUND WORKERS MUST WEAR HARDHATS

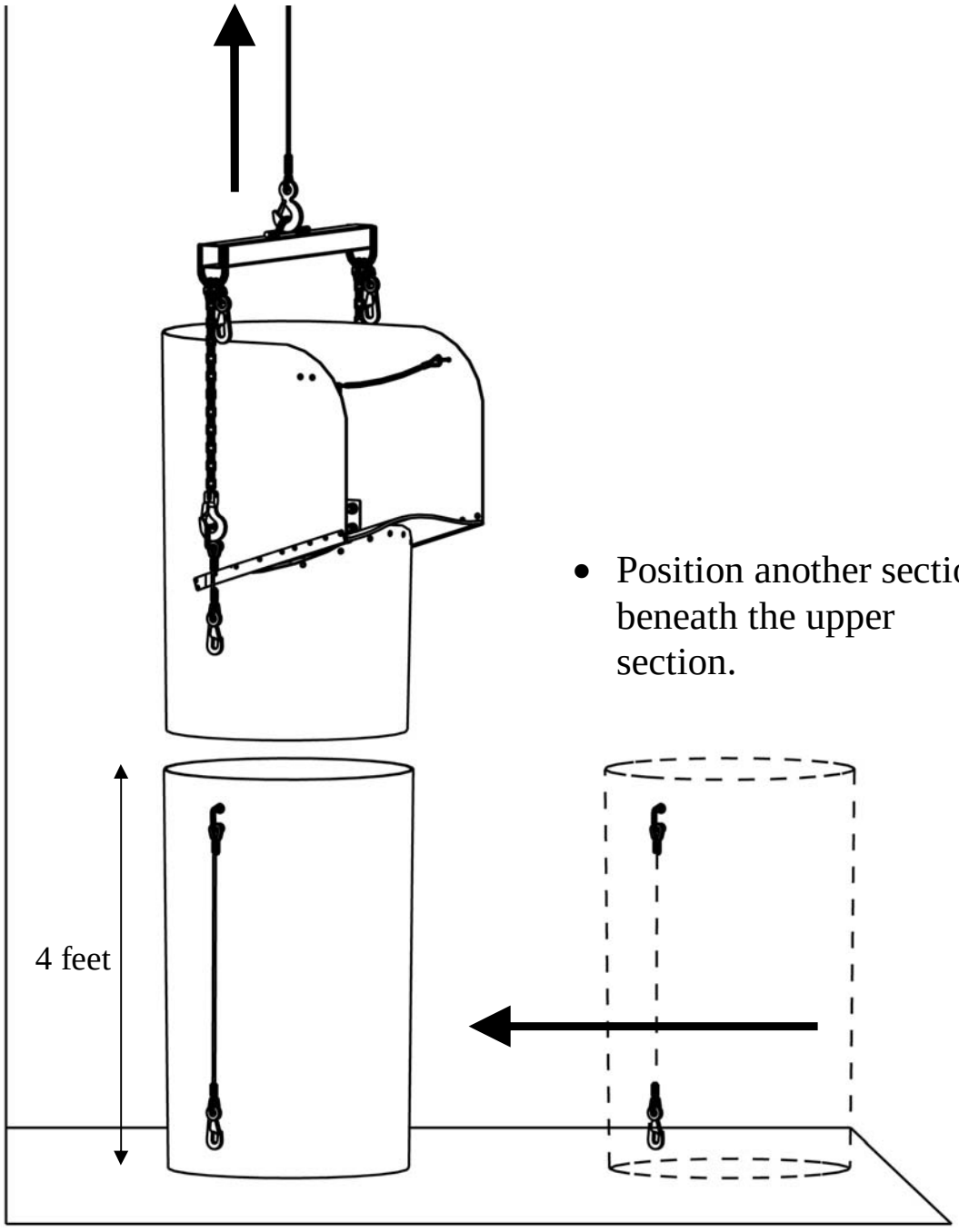
ALTERNATE THE SEAMS

As you add Regular sections, arrange them so that the **seams*** alternate from side to side, as depicted in the sketch below. Alternating the seams* from side to side will help the chute hang straight.



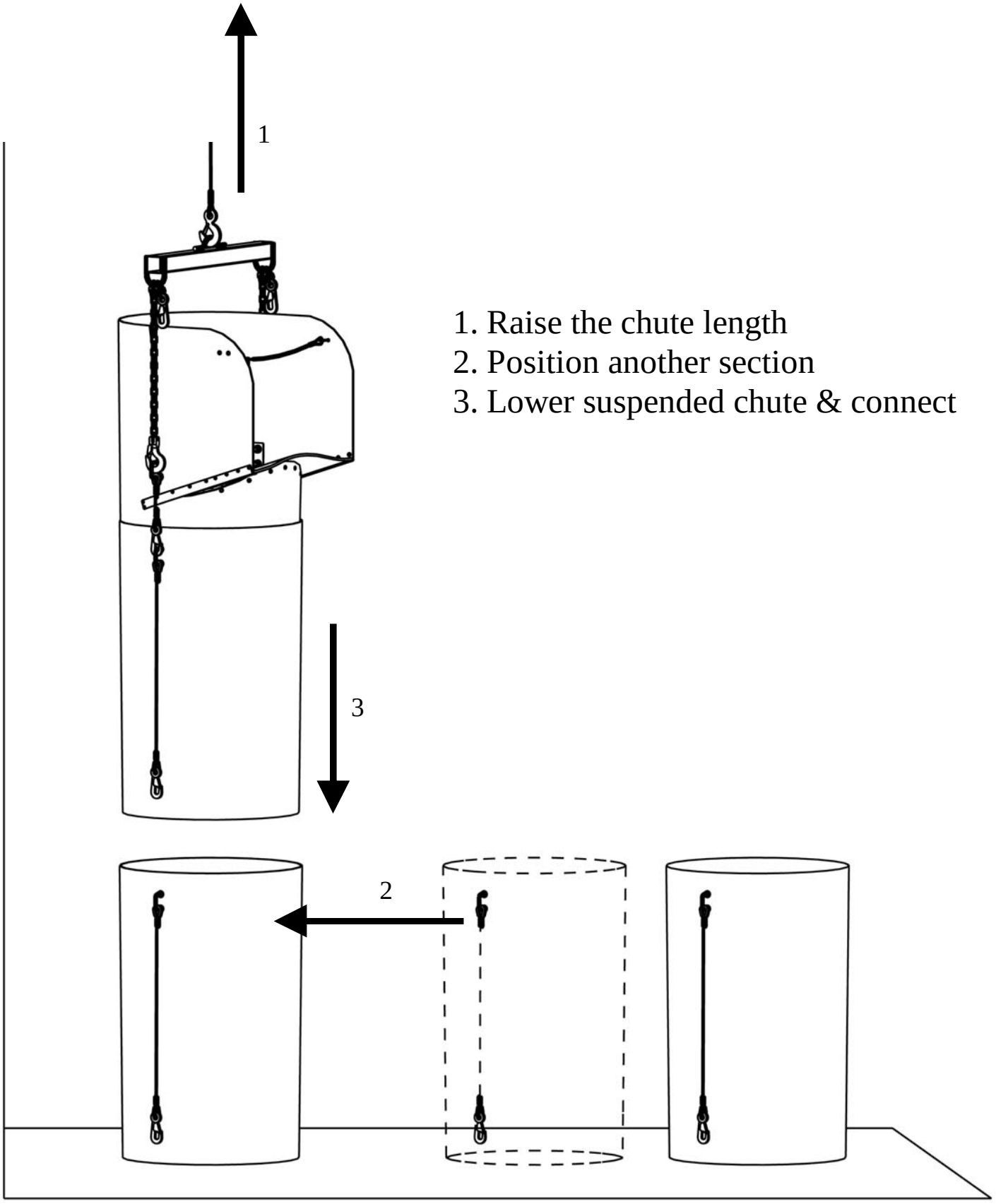
*** plastic weld seams** or **Wraparound® clasp seams**

- Raise the section 4 feet.



- Position another section beneath the upper section.

Repeat the following instructions until the Top Hopper arrives at the hoist level:



1. Raise the chute length
2. Position another section
3. Lower suspended chute & connect

⚠ WARNING

- A person can easily fall off of a building if the floor edge they are working near does not offer fall protection safeguards.
- A fall from a height of 6 ft. is enough to seriously injure or kill.
- OSHA requires that fall prevention barriers be at least 42” high, plus or minus 3”. Guardrail systems, parapet walls, and window sills may be acceptable fall prevention barriers provided they meet OSHA’s height criteria.
- Use a personal fall arrest system (body harness and lanyard, or similar device) when working near a floor edge that does not offer proper fall prevention barrier(s).
- Read and understand the OSHA fall protection regulations (a few of the regulations are provided on the previous page).

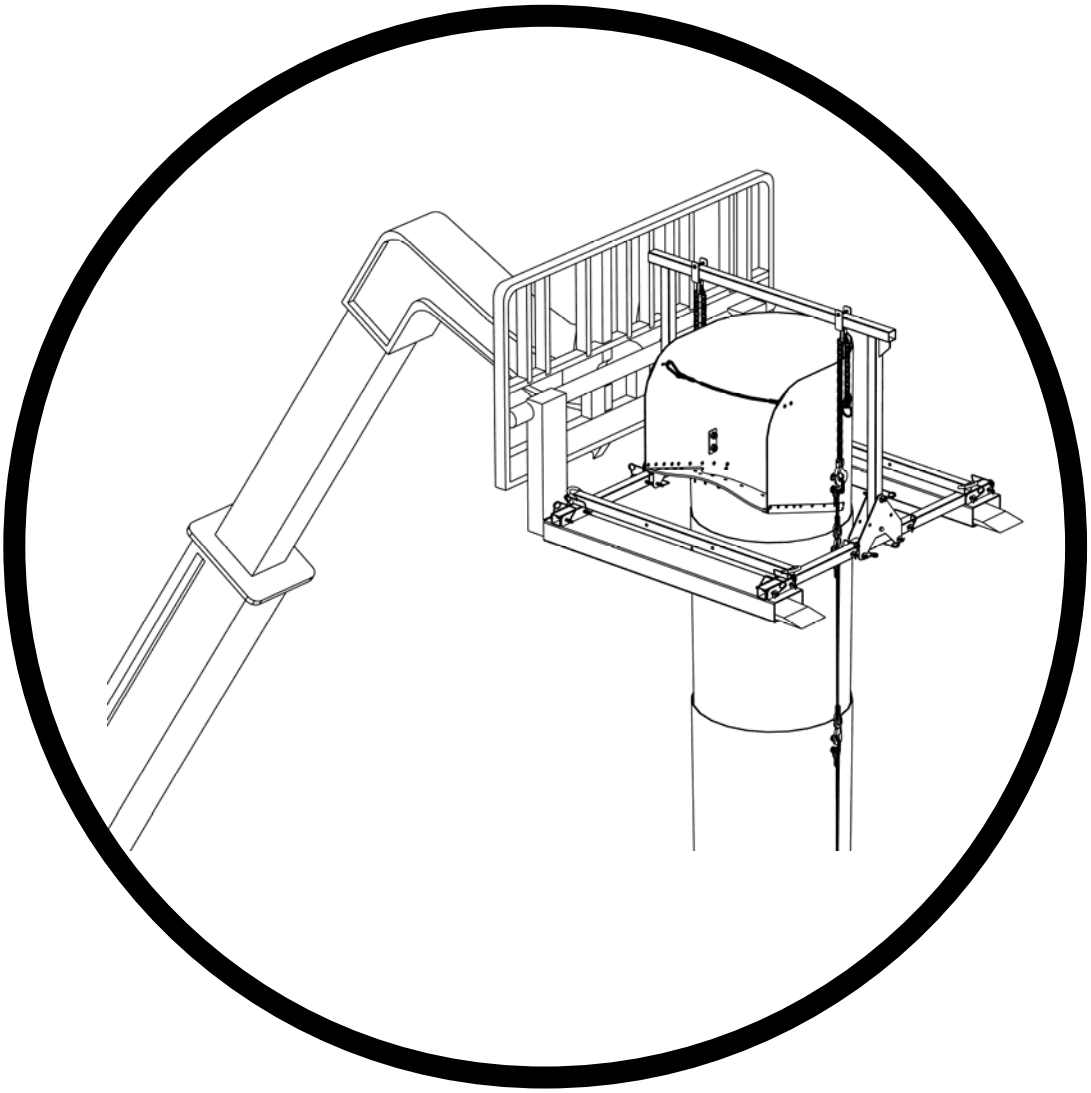
- Repeat the last step until the Top Hopper arrives at the hoist level.

⚠ WARNING

- The SC-900-f Forklift Frame has a Working Load Limit of 900 lb. (It is designed to safely lift, support, and lower a chute load weighing up to 900 lb).
- The Frame may fail if more than 900 lb. is applied.
- A falling chute system can seriously injure or kill.
- Do not overload the Frame or the Forklift.
- Use the information in ***Sections 7 & 8*** to calculate the maximum number of Superchute® sections you can safely lift, suspend, & lower.

12. CONGRATULATIONS

The installation of your SC-900-f Forklift Frame is complete.



Please see the next few pages for some important instructions.

APPENDIX A: WARRANTY

Superchute® chute hoists are made for heavy wear, but like all tools, time and use will take its toll. There is no warranty for wear and tear, or misuse of the hoist. Superchute® warrants all products against manufacturing defects, which must be reported in writing to Superchute® Ltd. upon receipt of goods. Thorough overhaul servicing is offered by Superchute® Ltd.

APPENDIX B: STAY INFORMED

The Superchute® factory sends out regular notices regarding new products, changes, recalls, and upgrades. Stay informed by filling out the form below and sending it in. Please feel free to enclose any other comments. Thank you for choosing Superchute® Ltd.

Your Name: _____ Company: _____ Address: _____ Phone: _____ Fax: _____	E-mail address: Website:

Number of chute sections owned: _____

Diameter(s) of the chute sections: _____

Date(s) of purchase: _____

Name of the Supplier: _____

Number of chute hoist(s) owned: _____

Models and Serial Numbers: _____

Date(s) of purchase: _____

Name of the Supplier: _____

Fax to: 514-365-8987, or mail to: Superchute® Ltd., 8810 Elmslie Road, Montreal, QC, Canada, H8R 1V6

APPENDIX C: PARTS LIST

PHOTOCOPY & ATTACH TO CLIENT FILE

HOISTER MODEL SC-900-f

1. Frame Components

	Quantity	Factory	Office
			Initials:
Fork Blade Channel	2		
Base	1		
Mast	1		
Hanger with Chains	2		
Locking pins (1/2” diameter)	14		
Locking pins (1/2” diameter) - SPARES	2		

2. Method of Securing

Lanyard	4		

APPENDIX D: FACTORY CERTIFICATE

FACTORY CERTIFICATION

I _____ certify that the 2 tests listed below were performed on the enclosed hoist:
use capitals

1. The Frame was fully assembled.
2. The Boom Chains were proof tested to 900 lb.

_____ _____
signed: production crew member date

Serial Number(s):

PHOTOCOPY & ATTACH TO CLIENT FILE

APPENDIX E: GLOSSARY

Breaking Strain: The average load at which a new component (for example: a cable or chain assembly) will fail. The breaking strain is obtained by applying direct tension to a component at a uniform rate of speed, in a testing machine.

Chute: A series of linked chute sections that are used to convey debris.

Chute Hoist: An engineered device that has been designed specifically to raise, anchor, and lower a chute. A chute hoist consists of a support frame and a detachable winch apparatus (known as the Fishpole). The support frame, without the Fishpole, can still be referred to as a chute hoist.

Chute Sections: Modular conical tubes that can be linked together in series to form a chute.

Chute System: A suspended chute and the anchors (including chute hoists) that support it.

Design Factor: Also known as the "safety factor", it is a product's theoretical reserve capacity. The design factor is calculated by dividing the Breaking Strain by the Working Load Limit. The design factor is generally expressed as a ratio, for example: 10 to 1, or 10:1.

Users: The term "users" includes planners, supervisors, installers, and end-users of the chute hoist.

Working Load Limit:

The maximum load which can be applied to the component, when the component is new, or in "good as new" condition, and when the load is applied in the intended manner. This term can be abbreviated to WLL.

The Working Load Limit of the SC-900-f Forklift Frame is 900 lb.