## SUPERCHUTE<sup>®</sup> DEBRIS REMOVAL SYSTEM

# CHUTE HOIST INSTALLATION MANUAL



# *Roofer Hoist Model N<sup>o</sup> SC-605-cb*

## SUPERCHUTE<sup>®</sup> 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 April 25, 2003

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.

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Door Sections	Wraparound <sup>®</sup> 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

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



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

## 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 <u>SC-605-cb Chute Hoist Installation Manual</u> 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: <u>www.superchute.com</u>. 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-605-cb Chute Hoist Installation Manuals.

#### **B) IF USING THIS MANUAL EDITION WITH AN OLDER HOIST**

Over time, improvements have been made to the Roofer Hoist. 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<sup>®</sup> Factory: 1-800-363-2488.

Older hoists can be upgraded to reflect the latest improvements. Contact the Superchute<sup>®</sup> 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:



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<sup>®</sup> warning:



#### **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: <u>www.superchute.com</u>.

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## 1. INTRODUCTION

Welcome to safe, quick, and easy chute installations!

The Roofer Hoist is a counterweighted chute hoist that can be used from a flat roof, a floor slab, or through a window opening.

Superchute Ltd. manufactures three models of Roofer Hoist: the SC-300-cb, SC-605-cb, and SC-905-cb. This installation manual concerns model SC-605-cb, which lifts, supports, and lowers up to 605 lb. of chute. A 605 lb. chute load translates into approximately 50 feet (15 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: <u>Assess Chute Height & Weight</u>).

Assembly of the SC-605-cb is quick and requires only a few identical locking pins. Ten counterweights are required to support the chute load. The outrigger beams are splayed apart for rock-solid stability. The design features a 3:1 safety factor.

A removable Fishpole is available for lifting and lowering the chute. The same Fishpole can serve many SC-605-cb frames.

When not in use the entire frame can be folded and stored as compact packets.

#### Understand the Name:



## 2. IDENTIFY THE PIECES

### **Frame Pieces**



## **Fishpole Pieces**

### 1 Fishpole equipped with:

- Shelby drum winch
- cable & hook
- sheave wheel
- 2 locking pins



1 Spreader Bar



### **Exploded View**



## 3. DIMENSIONS



## 4. NORMAL LOADS

The sketch shows the loads imposed on the supporting structure with normal use.

A structural engineer must verify the adequacy of the supporting floor.



## 5. ULTIMATE LOADS

The sketch shows the loads imposed on the supporting structure when the device is overloaded.

A structural engineer must verify the adequacy of the supporting floor.



## 6. 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<sup>®</sup> web site at: <u>www.superchute.com</u>. 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<sup>®</sup> hoist(s), Superchute<sup>®</sup> cable assemblies, Superchute<sup>®</sup> chute sections, Superchute<sup>®</sup> steel liners, and any other ancillary Superchute<sup>®</sup> equipment, such as door adjustment kits and tie-back kits. Thorough overhaul servicing is available from Superchute Ltd.

#### **Condition of the Workers**

Superchute<sup>®</sup> 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<sup>®</sup> 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<sup>®</sup> 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<sup>®</sup> chute sections with chute sections of another brand.

#### Parts

Do not replace original Superchute<sup>®</sup> parts with non-Superchute<sup>®</sup> 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<sup>®</sup> factory. The seminar examines the proper installation and use of Superchute<sup>®</sup> chute sections and chute hoists. Call 1-800-363-2488 for details.

## 7. ASSESS CHUTE HEIGHT & WEIGHT

<u>SAMPLE</u>

feet.

40'

- 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?

#### 40 feet x 3 divided by 10 = 12

- 2. How many chute sections will be needed? Height in ft x  $3 \div 10 = 12$  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 page 18.*
- **Chute Weight Calculation Form** 42 42 1 (A) **Top Hopper** lb. each = lb. Х Wraparound 52 52 **(B)** Door Sections lb. each lb. Х Wraparound 390 10 (C) Regular Sections x 39 lb. each lb. =Wraparound - 3/16" wall 80 2 40 **Steel Liners** (D) lb. each lb. = Х 564 The Total Weight Of The Chute System A+B+C+D =lb. =
- 5. Does this weight exceed 605 lb? If "YES", then model SC-605-cb is not adequate. *Call the Superchute factory if your chute weight will exceed 605 lb.*

No. The weight of the chute and liners is 564 lb. which is less than 605 lb.



## 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<sup>®</sup> 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  $3 \div 10 =$  \_\_\_\_\_\_ 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.
   One to Weight Only 100 - 5

			Chute w	eight Calculatio	n Form
(A) <u>1</u>	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.
$\mathbf{A} + \mathbf{B} + \mathbf{C} + \mathbf{D} = \mathbf{T} \mathbf{h} \mathbf{e}$	Total Weight Of '	The Chute S	ystem	=	lb.

5. Does this weight exceed 605 lb? If "YES", then model SC-605-cb is not adequate. *Call the Superchute*® *factory if your chute weight will exceed 605 lb.* 

## 8. CHUTE SECTION WEIGHT CHARTS

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

Diameter	Wall Thick.	Regular	<b>Top Hopper</b>	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	Х	Х
30"	3.2 mm	Х	Х	Х
33"	5 mm	40	42	50
36"	6 mm	48	53	60

#### WELDED SECTIONS WEIGHTS (in lb.)

WRAPAROUND® SECTIONS WEIGHTS (in lb.)

Diameter	Wall Thick.	Regular	<b>Top Hopper</b>	Door
18"	5 mm	Х	Х	Х
23"	5 mm	29	30	40
27"	5 mm	35	40	49
30"	5 mm	39	42	52
30"	4 mm	31	Х	Х
30"	3.2 mm	28	Х	Х
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.

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## 9. 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

When properly used, the SC-605-cb Roofer Hoist meets the applicable requirements of OSHA Part 1926, Subpart M, Fall Protection.

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

- Consult OSHA's excellent online documentation on the internet: <u>www.osha.gov</u>.
- 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.

## **10. PROTECT THE DECK**

• To protect the roof membrane or floor finish, arrange four sheets of plywood as shown:





- 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 and strength criteria.
- Use a personal fall arrest system (harness and rope, 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).

Top View

## **11. ASSEMBLE THE FRAME**

A partially assembled frame can be awkward to handle. To prevent a worker from falling off the building, execute this chapter's instructions at a distance of 15 feet (minimum) from any unprotected edges.

1. Unpin the Cross Brace from the Connector Beam.



2. Extend the Cross Brace as shown below:







3. Pin the Weight Beam to the Connector Beam.



5. • Pin the Connector Beam to the Boom.



6. We now have one half of the frame.
Build the other half: Repeat steps 1 through 5.



7. Place the 2 half-frames side-by-side.



- 8. Use the Toprail and Toeboard to join the half-frames.
  - To prevent falls between the Toprail and Toeboard OSHA requires a Midrail.
  - Meet this regulation by installing a 5 ft. long 2" x 4" wood stud between the masts.

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## 12. POSITION, ANCHOR, & TIE-BACK THE FRAME

### 1. **POSITION THE FRAME**

- Shift the frame to the desired position near the roof, floor, or wall edge.
- Leave 6" between the Toeboard and the edge.
- Adjust the position of the frame.
- You will not be able to move the frame once the weights are installed.



### 2. ANCHOR THE FRAME

- Place 5 counterweights in each weight carriage.
- In total there should be 10 cast iron weights (55 lb. each) on the hoist.
- Always install all of the weights.
- Pass the weight retaining rods through the handgrips.
- Use the 2 supplied padlocks to lock the retaining rods and prevent weight removal.

### 3. TIE-BACK THE FRAME

Secure the hoist frame to the building by attaching a length of 5/8" nylon rope or 5/16" wire rope to each of the tie loops located on the Weight Beams.

Affix these two tie-backs to suitable structural members of the building (portions of the building structure, and window cleaning anchors are usually adequate, while roof vents, air conditioners, and parapets are usually not adequate). Avoid tying or running the rope over any sharp surfaces. DO NOT tie back to anchors that will be used concurrently by personal fall arrest systems.

- Nylon Rope: install snug, using recognized safety knots (eg. figure eight).
- Wire Rope: install snug, using proper hooks and fittings.
- Tie Back Kits: are available from Superchute® for quicker & safer tie-backs.



## 13. PREPARE & INSTALL THE FISHPOLE (if applicable)

The Fishpole will be unnecessary if a crane, or similar device, will be used to lift the chute.

If using a crane, or similar device, then please go directly to Section 14.





5. The Fishpole is installed as shown.



- 6. Turn the winch handle in a counter-clockwise direction to lower a few feet of cable. As the cable unspools, check it for wear and tear. If it is frayed or kinked, postpone the installation and order a new cable from Superchute Ltd.
  - Never substitute the cable (3/16" diameter 7 x 19 construction) for another size or strand design.



7. Use a stick, pole, broom, or some other long instrument, to bring the cable onto the deck.



- 9. Lower the Spreader Bar to the ground.
  - Continue checking cable for wear & tear.





- The Spreader Bar can descend quickly.
- If the descending Spreader Bar were to hit a worker or bystander it could seriously injure or kill.
- Ensure the area below the hoist is clear of workers and bystanders while the Spreader Bar is descending.

## **14. HOIST THE CHUTES INTO PLACE**

Although the following sketches show the Fishpole in use, other lifting devices, such as cranes, material hoists, or boom lifts, may be appropriate as long as they can safely manage the chute load. All lifting devices require the procedure shown in this section.





## WARNING

• GROUND WORKERS MUST WEAR HARDHATS

• Raise the section 4 feet.





- Lower the suspended section into the section beneath it.
- Connect the two sections using the suspended section's cable assemblies.



#### **ALTERNATE THE SEAMS**

As you add Regular sections, arrange them so that the **plastic weld seams** or **Wraparound<sup>®</sup> clasp 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.



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



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The Top Hopper is shown here arriving at the hoist level.





- The SC-605-cb Roofer Hoist has a Working Load Limit of 605 lb. (It is designed to safely lift, support, and lower a chute load weighing up to 605 lb).
- The hoist frame and/or Fishpole may fail if more than 605 lb. is applied.
- A falling chute system can seriously injure or kill.
- Do not overload the hoist frame or the Fishpole.
- Use the information in <u>Sections 7 & 8</u> to calculate the maximum number of Superchute® sections you can safely lift, suspend, & lower per frame.

## 15. TRANSFER THE CHUTE LOAD FROM THE LIFTING DEVICE TO THE BOOM CHAINS

Although the following sketches show the Fishpole in use, other lifting devices, such as cranes, material hoists, or boom lifts, may be appropriate as long as they can safely manage the chute load. All lifting devices require the procedure shown in this section.



Pull the hangers & chains towards the Masts.

2. Adjust chains through the keyholes until the clips are level with the Top Hopper U-bolts.



## **16. REMOVE THE FISHPOLE (if applicable)**

If using a crane (or similar device), please go directly to Section 17.

1. Push down on the winch box to raise the Fishpole to the vertical position. 2. Remove the Spreader Bar.

- 3. Unpin the Fishpole as shown.
  - Detach & store in a safe place.



## **17. CONGRATULATIONS!**

The installation of your SC-605-cb Roofer Hoist is complete!



Please see the next few pages for some important information.

## **18. FALL PROTECTION & THE GATEKEEPER**

## WARNING

- The Toprail is a substantial fall prevention barrier. If the Toprail is removed, and an alternate fall prevention barrier does not exist, a person could easily fall into the chute or off of the building.
- 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.
- The Toprail may be detached if it is interfering with the debris removal process, as long as personal fall arrest systems are used, or alternate fall prevention barriers are present.
- Keep the debris removal process quick and safe in areas without adequate fall protection by designating a worker as the **Gatekeeper**.
- The Gatekeeper is secured by a personal fall arrest system to an anchor that is independent of the chute system. Because he is protected against falls, he can work near the exposed edge. At a demarcated "stop line" (where there is no risk of falling over the edge), the Gatekeeper receives full wheelbarrows from unprotected workers. He empties the wheelbarrows into the chute and returns them to the stop line in exchange for full ones.



In this situation, the Toprail has been removed, and there isn't any other fall barrier, at least 39" high. Fall protection is required to prevent people from falling over the edge.

## 19. USING THE HOIST TO REMOVE DEBRIS FROM DIFFERENT LEVELS

The Roofer Hoist can be used to remove debris from different floor levels, one floor at a time.

Lower or raise the chute sections until the Top Hopper is aligned with the desired floor level.

The chute may be left hanging from the Fishpole if there is a small quantity of debris to remove at that floor level.

Always tie the Top Hopper into the building to prevent people and debris from falling between the chute and the building. Ensure that appropriate fall protection is available.



#### Removal Of Debris From Different Floor Levels (continued)

If the Top Hopper will be needed at a particular level for some time, it is preferable to transfer the chute load to the boom chains. Because the boom chains are only 5 ft long, they will need to be lengthened using a pair of wire rope extensions.

Transferring the load to the boom chains / wire rope extensions is safer, and also confers these advantages:

- The Fishpole can be removed to prevent the chute from being easily lowered and stolen.
- The Spreader Bar can be removed, so it does not obstruct the Top Hopper opening.
- The Fishpole cable will not be susceptible to damage caused by the debris removal process.

Wire rope extensions are available from Superchute Ltd. Please specify the precise lengths that you require.



## 20. DE-INSTALLATION OF THE HOIST



• Install the Fishpole. If using a crane (or similar device) to remove the chute, then go to step 3.



• Attach the Spreader Bar to the Top Hopper.



• Remove Boom Chains from Hopper. Lower chute.



• Rewind the cable & detach the Spreader Bar.



• Remove the Fishpole (if applicable).



• Remove the weights from the weight carriage.

• Shift the hoist frame away from roof edge.



• Break down the frame: Remove the Toprail, Midrail, Toeboard. • Remove the Mast and Boom Packets.



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## 21. RAMPS

## WARNING

- A ramp resting on the hoist frame could greatly increase the loading on the hoist frame.
- The load increase could cause the hoist frame to fail.
- Do NOT rest ramps on the hoist frame. Do NOT attach ramps to the hoist frame.
- Ramp designs must be approved by a structural engineer.

#### WRONG:

The wheelbarrow ramp increases the load on the hoist frame.



## APPENDIX A: WARRANTY

Superchute<sup>®</sup> 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<sup>®</sup> warrants all products against manufacturing defects, which must be reported in writing to Superchute<sup>®</sup> Ltd. upon receipt of goods. Thorough overhaul servicing is offered by Superchute<sup>®</sup> Ltd.

## **APPENDIX B: STAY INFORMED**

The Superchute<sup>®</sup> 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<sup>®</sup> Ltd.

Your Name:	E-mail address:
Company:	
Address:	Website:
Phone:	
Fax:	
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 & Serial Numbers:	
Date(s) of purchase:	
Name of the Supplier:	

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

## APPENDIX C: PARTS LIST

## **ROOFER HOIST MODEL SC-605-cb**

1. Frame Components	Quantity	Factory	<b>Office</b> Initials:
Weight Beam with attached weight carriage	2		
Connector Beam with attached Cross Brace	2		
Mast with attached Boom and chain	2		
Toeboard	1		
Toprail	1		
55 lb. cast iron counterweights	10		
<sup>1</sup> / <sub>2</sub> " diameter locking pins	10		
<sup>1</sup> / <sub>2</sub> " diameter locking pins: SPARE	2		

#### 2. Hoisting Components

Fishpole + sheave+ Shelby winch + cable	1	
Outer Cross Bar	1	
<sup>1</sup> / <sub>2</sub> " diameter locking pins	2	
Spreader Bar	1	

## **APPENDIX D: TEST CERTIFICATE**

Ι

\_\_\_\_\_ certify that 3 tests (see below) were performed on the enclosed hoist:

use capitals

- 1. The Frame was fully assembled and checked.
- 2. The Fishpole was attached to the frame & proof tested to 600 lb.
- 3. The Boom Chains were proof tested to 600 lb.

Serial Number(s):

signed: production crew member

date

PHOTOCOPY THIS FORM AND ATTACH TO CLIENT'S 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 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-605-cb chute hoist is 605 lb.

## **APPENDIX F: WINCH INFORMATION (IF APPLICABLE)**

If a Fishpole is part of your SC-605-cb Roofer Hoist, then the following information applies:

![](_page_52_Picture_2.jpeg)

The Fishpole is equipped with a drum-style winch.

Winch manufacturer:	Shelby Industries
Telephone:	(502) 633-2040
Winch model:	5353
Further information:	See the next 4 pages for manufacturer's information on the winch.

## SHELBY INDUSTRIES WINCH MANUAL

## OWNER'S MANUAL & PARTS LIST WINCH MODEL 5353

2500 Lb. (1134 kg) Maximum Rated Line Pull

![](_page_53_Picture_3.jpeg)

THIS EQUIPMENT SHOULD NOT BE INSTALLED, OPERATED OR MAINTAINED BY ANY INDIVIDUAL WHO HAS NOT READ ALL THE CONTENTS OF THIS OWNER'S OPERATING MANUAL.

FAILURE TO READ AND APPLY THE INSTRUCTIONS AND WARNINGS CONTAINED HEREIN CAN RESULT IN SUDDEN FAILURE OF EQUIPMENT, PROPERTY DAMAGE AND SERIOUS INJURY.

#### I. ASSEMBLY INSTRUCTIONS

- A. HANDLE. Insert handle (item 6, Fig. 1) on threaded brake assembly shaft. Thread handle to point of engagement (touching) of brake pad.
- B. HANDLE RETAINER ASSEMBLY. Insert Bolt (Item 1, Fig. 1) through lockwasher (Item 2, Fig. 1), flatwasher (Item 3, Fig. 1), spacer (Item 4, Fig. 1) and spring (Item 5, Fig.1- spring will fit over spacer). Recheck Fig. 1 to ensure proper order of assembly.

Install bolt containing assembled retainer parts (Fig. 1) into threaded end of brake shaft and tighten bolt securely.

#### **II. MOUNTING INSTRUCTIONS**

- A. This winch is designed to be attached to a mounting plate or structure capable of supporting the load that it is intended to pull (lift).
- B. The winch should be mounted, using five 3/8" dia. S.A.E. Grade 5 bolts (not supplied). Four bolts should attach the winch to the mounting structure utilizing the outside rear holes or slots. The fifth bolt should be inserted through the winch frame and mounting structure in a manner to utilize the foremost remaining frame slot (hole) (Fig. 2).

#### **III. CABLE ASSEMBLY INSTRUCTIONS**

- A. CABLE ATTACHMENT. Winch model 5353 is designed for up to 65 ft. of 5/16" dia., 7 x 19 galvanized aircraft-quality cable.
  - 1. Feed cable into bottom of drum (item 7, Fig. 3). From inside drum, thread the cable through one round hole in the drum side, until it extends 1-1/2" past the two square holes.
  - 2. Clamp the cable to the outside of the drum with keeper parts (items 8, 9, 10, Fig. 3). Be sure that carriage bolt heads are on the inside of winch drum.

![](_page_53_Picture_17.jpeg)

Fig. 1: Handle Retainer Assembly

![](_page_53_Picture_19.jpeg)

Fig. 2: Mounting Instruction

![](_page_53_Picture_21.jpeg)

Fig. 3: Cable Installation

![](_page_54_Picture_0.jpeg)

- 1. Always be sure cable is strong enough to support the load to lifted.
- 2. Always inspect cable and attachment hook before each use to insure they are not damaged.
- 3. Replace cable if worn, frayed or kinked. If the cable or hook breaks, the cable can act like a whip and inflict serious injury to anyone in the path of its movement.
- 4. Never stand alongside winch cable, or guide the cable with your hands.
- 5. Never fully extend cable and ALWAYS keep three (3) complete wraps of cable around drum.
- 6. Always be sure cable is pulling straight off winch not at an angle. This will prevent cable from rubbing against winch drum, avoiding cable damage.

#### **IV. OPERATING PROCEDURE**

- A. TO REEL IN OR LIFT LOAD. This winch is designed to lift a load (reel in) by turning the hand crank in a clockwise direction. This action will produce a clicking sound inside the winch mechanism. To LOCK the load at any desired position, release handle slowly.
- B. TO REEL OUT OR LOWER LOAD. To lower load (reel out), turn handle crank in a counter-clockwise direction. To LOCK load in any desired position, turn handle clockwise until at least (2) clicks (approximately 8" movement of handle) are heard inside the winch mechanism before releasing handle.
- CAUTION: If hand slips off handle while turning counter-clockwise, the brake will prevent the handle from spinning rapidly backwards. NOTE: The brake is not fully locked until the handle is turned clockwise far enough to hear two (2) clicks of the ratchet.
- WARNING: Sufficient load must be applied to the cable to overcome internal resistance and operate brake properly. NEVER CONTINUE TURNING THE HANDLE COUNTER-CLOCKWISE IF THE CABLE DOES NOT KEEP MOVING OUT. This will disengage the brake mechanism and can create an unsafe or hazardous condition. MINIMUM OPERATING LOAD REQUIREMENTS – Model 5353 – 525 lbs.

The brake mechanism under continuous long periods of lift and lower movement will get HOT. DO NOT TOUCH BRAKE MECHANISM UNDER THESE CONDITIONS.

#### **V. MAINTENANCE INSTRUCTIONS**

- A. LUBRICATION. All gears must be clean and lubricated (auto-type grease) to ensure proper and safe operation. All shafts, bushings and ratchet parts must be clean and wet with oil (auto-type 10W-30) to ensure proper and safe operation.
- B. BRAKE DISC. Brake disc wear can be inspected by removing handle retainer assembly, handle and brake disc cover. Brake discs should be replaced if the thickness is less than 1/16", cracked or broken. DO NOT USE OIL OR GREASE ON FIBRE BRAKE FACES.
  - **WARNING:** If brake disc mechanism operates intermittently or erratically, brake disc inspection should be accomplished.
- C. BRAKE RATCHET MECHANISM. Check ratchet operation by listening for "clicking sound" when cable is reeled in (turn handle clockwise). Also, when the cable is reeled out, there will NOT be a clicking sound of the ratchet. Brake ratchet parts can be inspected for worn parts and unsafe conditions by removing handle retainer assembly, handle and disc cover.

CAUTION: CARE MUST BE TAKEN DURING REASSEMBLY TO ENSURE THAT ALL PARTS ARE INSTALLED CORRECTLY FOR PROPER OPERATION.

![](_page_55_Figure_0.jpeg)

ITEM	DESCRIPTION	PART NO.	KIT NO.	ITEM	DESCRIPTION	PART NO.	KIT
							NO.
1	$\frac{1}{4}$ "-20 x 1 $\frac{1}{2}$ Hex screw	0913-03		19	<sup>3</sup> / <sub>4</sub> I.D. Bushing (3)	2679-09	
2	<sup>1</sup> / <sub>4</sub> " Lockwasher	2524-03		20	1 <sup>1</sup> / <sub>2</sub> I. D. Bushing	0969-07	
3	<sup>1</sup> / <sub>4</sub> " Wide Flatwasher	0917-07	5444-81	21	1 <sup>1</sup> / <sub>2</sub> O. D. Bearing	0970-04	
4	Handle Retaining Spacer	1907-02		22	Frame Spacer	1877-04	
5	Spring	0940-00		23	Frame	0460-07	
				24	10-32 Locknut (2)	2713-03	
				25	Back Pinion Shaft	1872-06	
				26	Pawl Spring	1909-05	
				27	Pawl Spacer	1890-05	
				28	Pawl	1891-07	
				29	Washer	0904-03	
				30	Pawl Bolt	0968-01	
6	Handle	2089-04		31	Brake Backup Plate (2)	1878-09	5443-81
7	Reel Assembly	0840-05		32	Brake Pad (2)	0846-06	
8	10-24 Hex Nut (2)	2706-03		33	Brake Ratchet	1906-06	
9	Cable Keeper	2704-03	5441-81	34	Cover	1915-05	
10	10-24 x 5/8 Carriage Bolt (2)	2705-03		35	10-32 X 1 <sup>3</sup> / <sub>4</sub> cover screw	0874-07	
11	3/8" Locknut (2)	1873-03					
12	Reel Bolt	2627-03					
13	Washer (3)	0232-03					
14	Pinion Gear (8)	0776-03					
15	Front Shaft	1873-05					
16	Pick-Off Gear Assembly	0951-05					
17	9/16" Locknut (3)	0673-03					
18	<sup>3</sup> / <sub>4</sub> O.D. Bearing (2)	1855-02					

• Please order by specifying: Model Number, Name of Part or Kit, Part or Kit Number.

- Replacements parts are available from your dealer or the factory.
- If kit number covers a combination of part numbers, parts are sold only by kit number.

#### THIS WINCH IS NOT DESIGNED TO BE USED FOR HOISTING OR TRANSFER OF PEOPLE OR HOISTING LOADS OVER PEOPLE-OCCUPIED AREAS.

- 1. NEVER leave a weight hanging by the winch while the winch is unattended, as unauthorized persons may attempt to operate the winch, thereby creating an unsafe condition.
- 2. NEVER exceed maximum rated line pull (stamped on winch). Exceeding this rating could cause failure of the winch , serious injury to the operator, bystanders and damage to equipment.
  - NOTE: Maximum rated line pull for Model 5353 is 2500 lbs. (1134 kg) for the first layer (minimum of 3 wraps) of line on the drum, and 1675 lbs. for full drum rating.

As more line is wrapped on the drum, the mechanical advantage of the winch is reduced and the rating will also be reduced.

- 3. ALWAYS keep winch maintained in accordance with this instruction sheet. REMEMBER: Worn parts cause unsafe conditions.
- 4. Winch components can be affected by chemicals, salts and rust and should be examined for unsafe conditions before operating.
- 5. NEVER alter the mechanics of the winch (Example: do not add to the handle length to make easier lifting).
- NEVER use two or more winch units to lift a load that is greater than the load rating of any single unit. A shifting load may place the entire load on one unit, causing sudden failure of equipment, property damage and serious injury.
- 7. Apply the load evenly. Do not jerk or bounce the load or allow the load to swing. Avoid violent motion and shock loads. This type of operation requires equipment with higher load ratings.
- 8. Each time a load is to be lifted, test winch for safe operation by lifting the load a few inches first.
- 9. ALWAYS keep hands away from load-bearing cables, ropes, sheaves, drums and pulleys while operating.

REMAIN CONSTANTLY AWARE THAT SAFE OPERATING IS YOUR RESPONSIBILITY.

#### LIMITED WARRANTY

Shelby Industries, Division of Prospects Boat Works, Incorporated warrants its products described herein to be free from defects in material and workmanship to the original purchaser at the date of purchase at retail. If any of these products is found to be defective, it may be replaced or repaired, at the option of Shelby, when returned with proof of purchase to Shelby's manufacturing facility in Shelbyville, Kentucky. The owner shall pay all transportation and shipping charges associated with the return of said product and the returned product shall become the property of Shelby. Where Shelby determines that circumstances are such as to prelude the remedying of warranted defects by replacements or repair, Shelby shall, upon return of the products and proof of purchase, refund owner's purchase price.

In no instance shall Shelby be responsible to repair or replace a product under this limited warranty where said product was improperly installed, altered or misused, including using the product contrary to Shelby's printed instructions or instructions stamped on the product itself.

The foregoing states the sole and exclusive remedy for any breach of warranty or for any other claim based on any defect in or non-performance of, the products, whether sounding in contract, warranty or negligence or strict liability. Shelby makes no other warranties express or implied, hereby excludes any implied warranties of mechanability or fitness.

Without limiting the generality of the foregoing, Shelby shall under no circumstances be liable for any incidental or consequential loss or damage whatsoever arising out of, or in any way relating to, any such breach of warranty or claimed defect in, or non-performance of, the products.

This limited warranty is designed to fully comply with the terms and provisions of the Magnuson-Moss Warranty Act. Some states may not allow the limitation of exclusion of incidental or consequential damages, so the above limitations or exclusions may not apply to you.

For more information or assistance regarding this product, contact your dealer or write to: Customer Service Manager, Shelby Industries, Division Boat Works, P.O. Box 308, Shelbyville, Kentucky 40065.

NOTE: THIS PRODUCT COMPLIES WITH REGULATION V-5 AND C.S.A. STANDARD D-264.

NOTE: SOME STATES REQUIRE CLEAR VIEW OF LICENCE. REMOVE BALL WHEN NOT IN USE IF IT RESTRICTS VIEW. NOTE: THIS PRODUCT COMPLIES WITH SAFETY SPECIFICATION & REQUIREMENTS FOR CONNECTING DEVICES & TOWING SYSTEMS OF THE STATE OF NEW YORK.