

Page1 **IMPORTANT: ONLY PERSONS THAT HAVE READ THE MANUAL AND SAFETY STICKERS AND UNDERSTAND THE DANGERS OF OPERATION SHOULD OPERATE.**

# **3500 lb and 4500 lb Vertical Boat Lift**

## **Assembly Instruction Manual, Safety & Warranty Information for models #35108V, 35120V after year 2010, 45108V, 45114V and 45120V after year 2009**



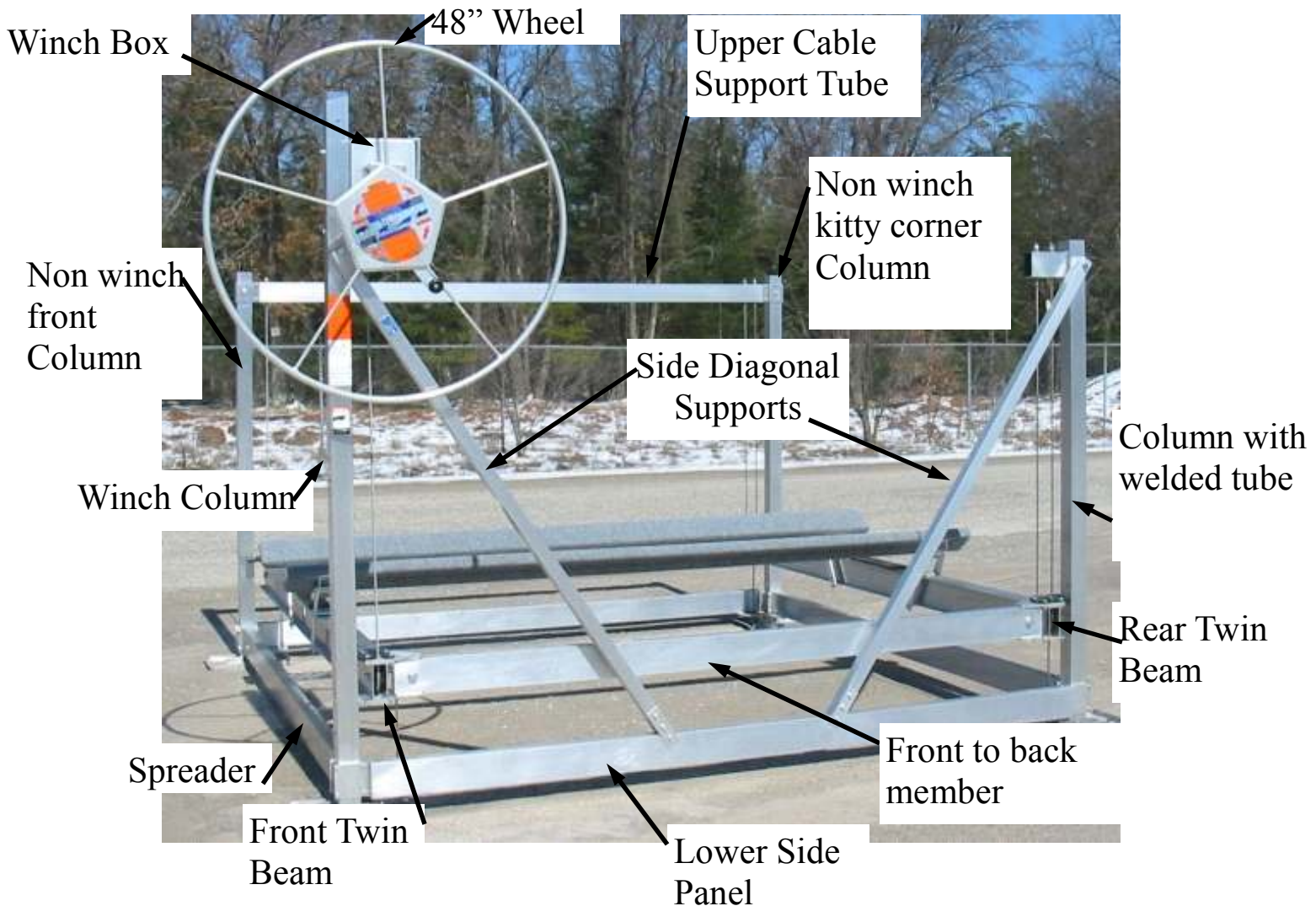
Proudly Made in Michigan  
By  
NuCraft Metal Products  
402 Southline Rd.  
Roscommon, MI 48653

Manuals and drawings also available online at [www.craftlander.com](http://www.craftlander.com)

Revision 01/10

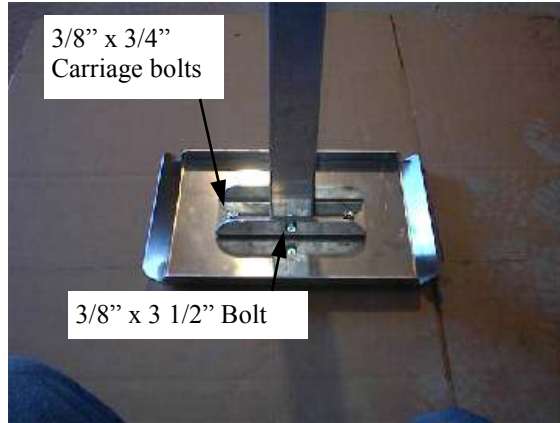
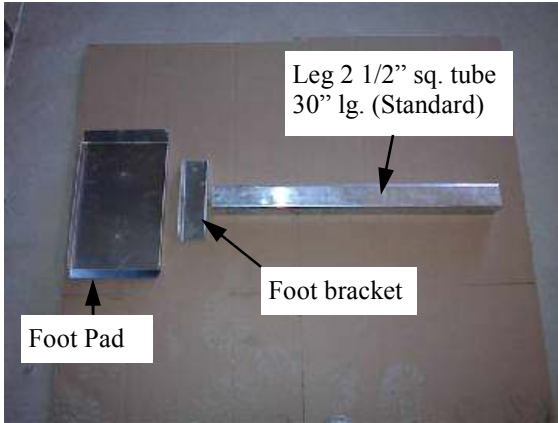


## Main parts as shown below



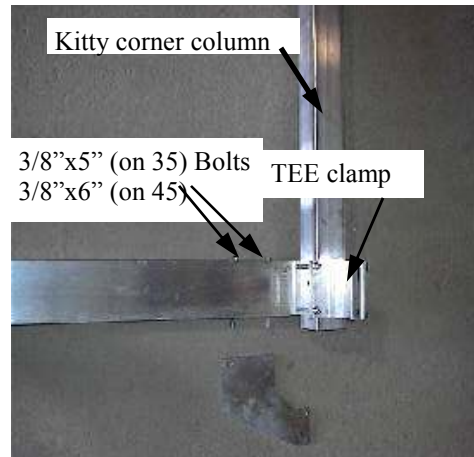
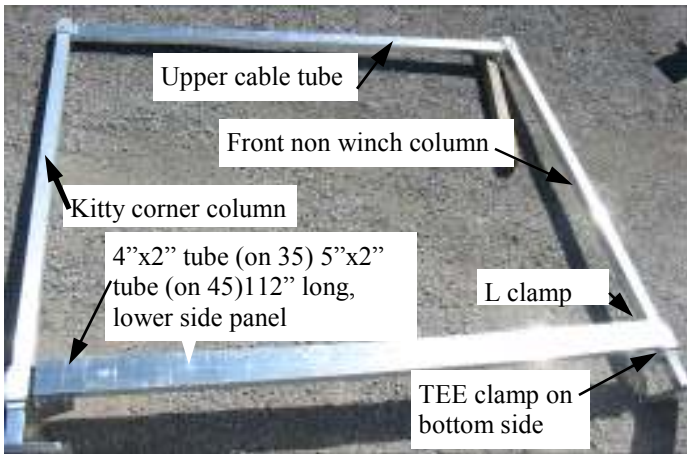
\* Steps to putting together this hoist are on the preceding pages. Steps may vary because there are many different ways of putting it together.

\* The winch side is the side of the hoist with the winch box on it. The non winch side is the side without the winch box on it.



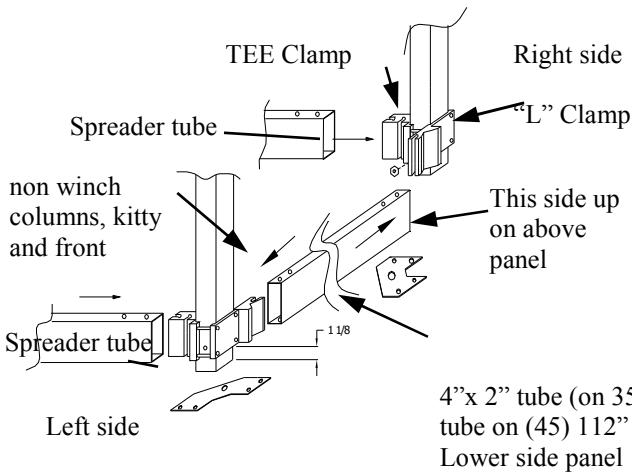
Start by finding the foot pads, foot pad brackets and legs that go together. You will also need 8-3/8" x 3/4" carriage bolts, 4-3/8" x 3 1/2" bolts and 12-3/8" serrated nuts (whiz nuts) to hold the legs together.

Put the foot bracket on the foot pad and line the holes in them up. Put the 3/8" x 3/4" carriage bolts through the foot pad so nut will be on the bracket side. Put the leg into the bracket and put 3/8" x 3 1/2" bolt through with whiz nut on end of bolt.



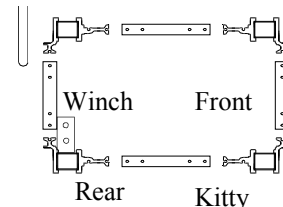
Assembled non winch side

Kitty corner to winch column view shown above.



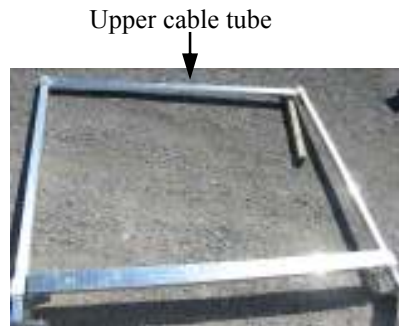
Drawing of lower side panel assembly

Next, find 2 columns- (3" sq. tube 6'-6" long). There are 2 of them so find the two that are a mirror image of each other (opposite hand). Those are the ones you'll use. Lay one on the ground with the bolted on TEE clamp facing down and the "L" Clamp going to your right. (hoist inside) Lay the other column on the right side with the TEE clamp facing down and "L" Clamp going toward the left (hoist inside). Find the lower side panel tube 4"x2" (on 35) 5"x2" (on 45) x 112" long. Holes in center of the tube closest to top side. Slide it over the "L" clamps on both columns and drop 2- 3/8"x5" (on 35) 3/8"x6" (on 45) bolt through to hold in place. See next page for finishing the above assembly.

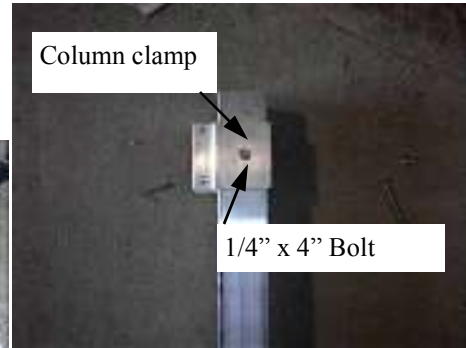


Frame work top view

Next, find the column clamps 3" square inside x 4" long. See picture to far right) Slide one over each column on top side facing toward inside of columns. Line hole up in columns and put a 1/2" x 4" bolt through from the top going down. The nut will be on far side or on the hoist outside. (less likely to damage boat by sticking bolt toward the outside of hoist). Repeat on other column. Next, insert the upper cable tube size 4" x 2" x 113" long into the column clamps and put 2- 3/8" x 3" bolts through from top going down like on the 1/2" x 3 1/2" bolt on each side. Now you have the side opposite the winch (non winch) side panel together.



View of non winch side panel



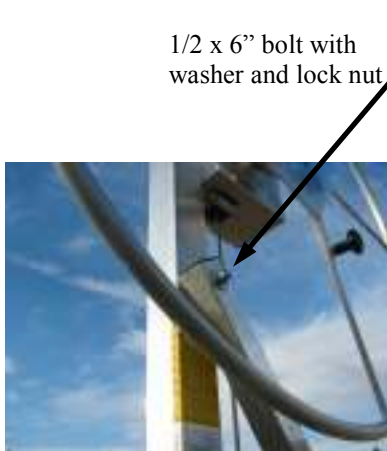
Upper column with column clamp attached

Winch column  
 Tube 4"x2" (on 35)  
 5"x2" (on 45) x 112" long.  
 Lower side panel



Non Winch column  
 Column with welded tube

Next, you will need the winch column 3" square tube 8'-0 long, and the rear column 3" square 6'-6 long with tube welded on top, lower side panel tube 4"x2" (on 35) 5"x2" (on 45) x 112" long, two side diagonal supports. Put the lower side panel tube into the "L" clamps like was done with the other panel and drop some bolts though tube. The diagonal supports have one 1/2" hole at square cut end. Use the 1/2 x 6" bolt with 2- 1/2" washers and 1/2" lock nut. Lay diagonal support on the winch column, line up holes and put 1/2" x 6" hex bolt with washer through the winch column from the back side through the column and brace. Put another washer over the bolt then lock nut, do not over tighten. The other support end bolts to the 4"x2" (on 35) 5"x2" (on 45) tube on bottom with 3- 3/8" x 2 3/4" bolt and 3/8" whiz nuts. (see below picture) Remember all bolts stick toward the outside of the hoist. The other diagonal brace bolts to the rear column similarly.



1/2 x 6" bolt with washer and lock nut



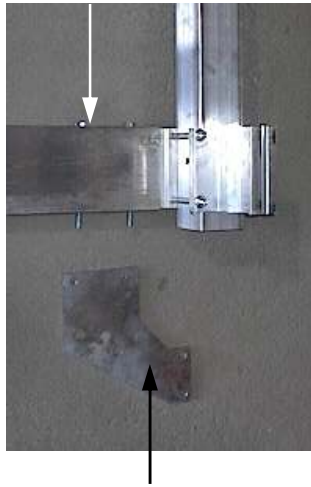
*To the left close up of rear winch column brace connection*



View of 3/16 x 2 x 6" long flat bar (4-req'd) on diagonal braces secured with 3/8 x 2 3/4 hex bolts and 3/8 whiz nuts. (6-req'd)

Close up of winch column brace connection.

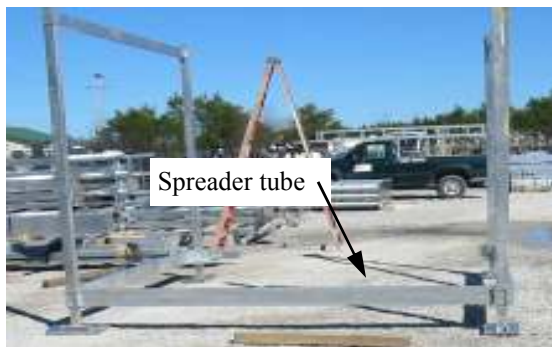
3/8"x5" (on 35) Bolts  
3/8"x6" (on 45)



Find the 1/4" steel lower corner plates.



Next, put the galvanized lower corner plate on the corners of the assembled sides. Leave 3/8" x 5" (on 35) 3/8"x6" (on 45) bolts loose to help installing the lower spreader into the TEE clamps use 3/8" whiz nuts on bottom. Important note: One of the L clamp area bolt holes has no member under it. **Do not over tighten this, as it could damage the aluminum tube.**

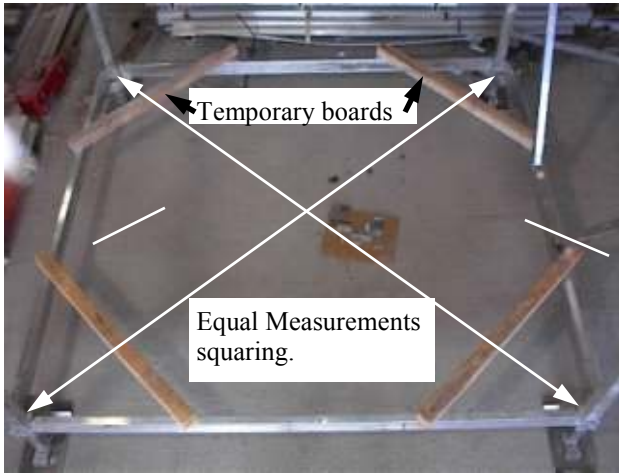


Next stand the side panels upright and lay the spreader tubes 4"x2" (on 35) 5"x2" (on 45) tube (Length is 1" shorter than beam on hoist. Example: 120 wide hoist tube is 119" lg.) in between them. You may want someone to hold them while you are assembling. Insert the lower spreader tube into the TEE clamps each side using 3/8"x5" (on 35) 3/8"x6" (on 45) bolts with whiz nuts.



Before tightening bolts, square (tram) the corners of the hoist with equal measurements. See next page for example photo.

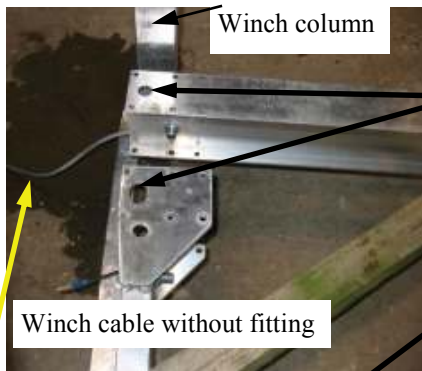
**Below: Laying twin beams on the temporary boards**



Another picture of diagonal use of the temporary boards.

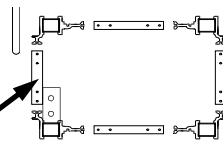
After squaring hoist frame, tighten bolts. To help further installation lay boards across the corners of the frame diagonally. They will support the carriage when assembling. (Like shown in the picture)

Find the twin beams. The twin beam that has one cable in it goes on front winch corners of hoist. The Winch cable without fitting goes on the winch side. The cable end with fitting goes on front corner. The winch cable end without fitting goes up through hole on twin beam and front to back member after the front to back member is slid over the twin beam. See pictures below. Larger plate on front to back member is the top.

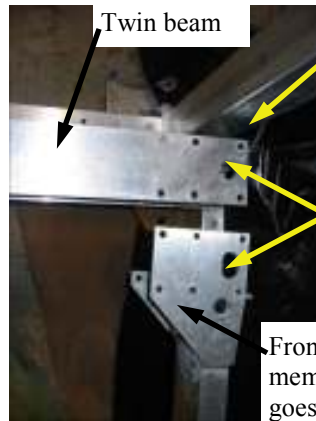


Winch column view of twin beam.

Cable goes through holes after assembly



**Top View drawing**



Non winch front of hoist corner above.

The cable fitting with threaded stud goes through hole in twin beam and front to back member. After the two are slid together the cable connects above in the upper support cable tube.

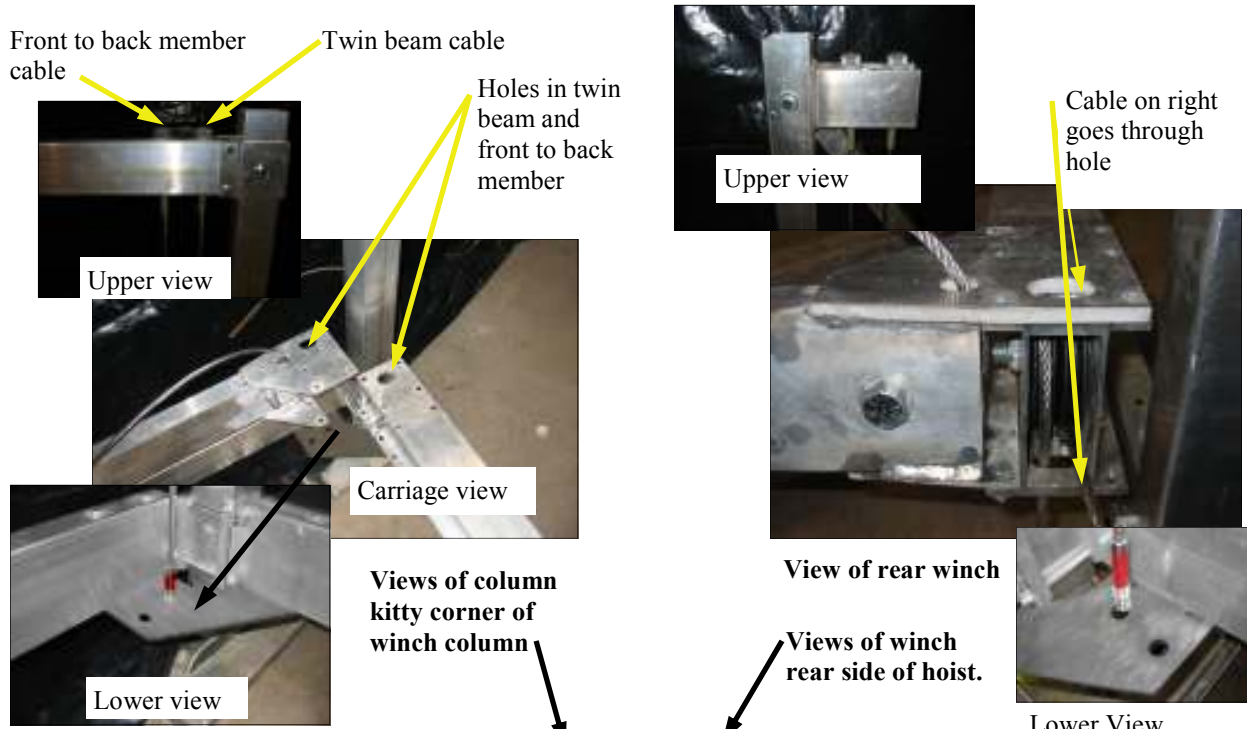


Winch column view of twin beam and front to back member together.

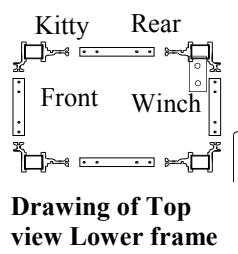
Non winch front of hoist corner. Parts are fit together.



Page7 Next, lay the rear twin beam the beam with 2 cables in on the temporary boards on rear of hoist. The cables that go up (longer cable fittings) are closest to outside of hoist. The cables that go down (shorter cable fittings) will be closest to inside of hoist.



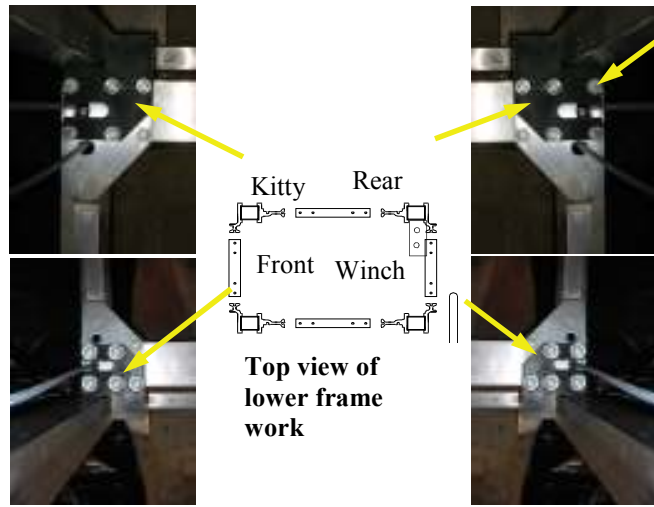
Fit the front to back member to the twin beam. Feed the cable in twin beam with the longer cable fitting through the holes in the twin beam and front to back member upward. The cable end on the front to back member goes up and fastens to the upper support cable tube. The cable coming out of the front to back member also fastens to the upper support cable tube. The Twin beam also has a cable with shorter fitting that's on the inside of the hoist that fastens to steel plate on the bottom with 5/8" lock nut.



**Drawing of Top view Lower frame**

The cable on right with longer cable fitting goes up though hole in twin beam and clip on front to back member and has longer cable fitting on it.

**Below top views of corners with plastic guide plates on**



**Top view of lower frame work**

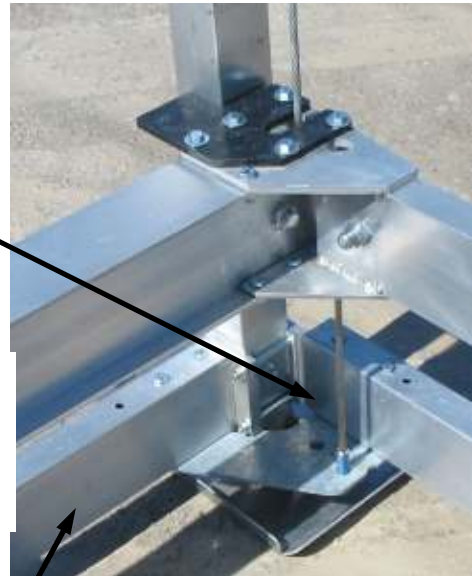
3/8 x 1 1/2 bolt with washer and nut.

Next put the plastic guide plate on top of the twin beam. Bolt with 3/8" x 1 1/2", 3/8" washer and 3/8" whiz nut. Tighten. Next page has more top view of connections. Repeat on the other ends.

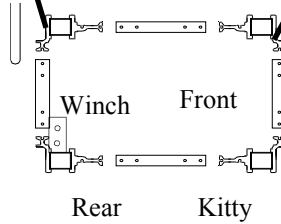
Note when putting nuts on cables the lower cable fittings do not need washers but the upper longer fittings do. **Do not tighten cables very much.** You should be able to grab the cable after putting nuts on and move from side to side some. Cables over tightened can prevent the hoist from going down freely



Winch column area assembled view



Front Column area assembled view



Rear Column area assembled



Kitty corner to winch column area assembled view



Next, we will be doing the upper cable connections. The long cable fittings will be going through tubes with washer and 5/8" lock nut. See next picture.

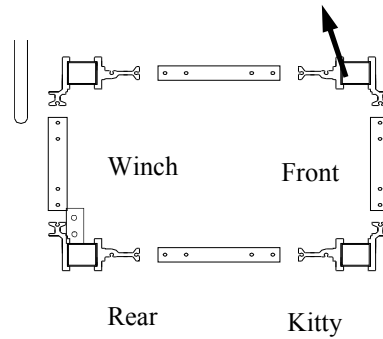
The winch cable in the twin beam goes up and fastens here with 5/8" lock nut and washer



View of non winch front column

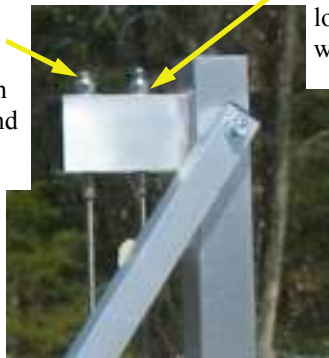


View of winch end with diagonal support next page will show assembly.



Front to back member cable long fitting with 5/8" lock nut and washer

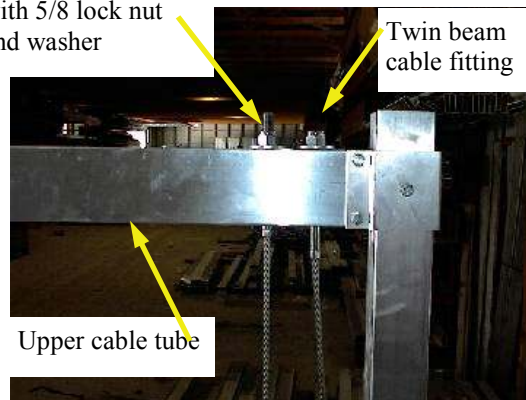
Rear twin beam cable with 5/8" lock nut and washer



View of winch side, rear corner of hoist.

Front to back cable with 5/8 lock nut and washer

Twin beam cable fitting

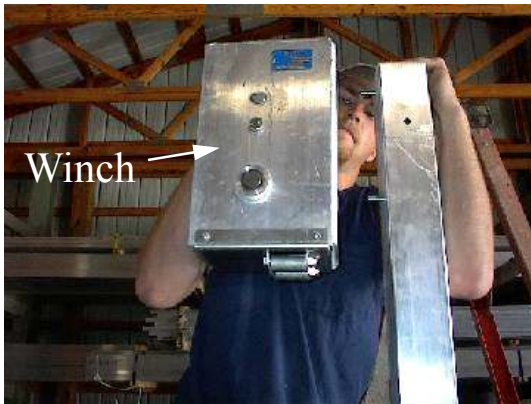


Upper cable tube

View column kitty corner to winch column

Next take the twin beam long cable fitting ends and attach to upper cable tube with 5/8" washer and nylon insert lock nut. Tighten so cables are not tight but not real slack either. Use the holes on the outer edge of tube. If cables are too tight it will prevent the hoist from going down freely. Repeat on the other end. The front to back cables fasten similar (see above for locations).

Page10 Note: We use a 11:1 Winch on a 35 and a 16:1 on a 45



O.K. it's time for the winch. Take 2- 3/8" x 4" bolts with 2 -3/8" washers and whiz nuts. Put the bolts through the winch column like above or from the inside out. Doesn't matter. Line up the bolts with the holes. Use washers on column, none required on inside of winch.



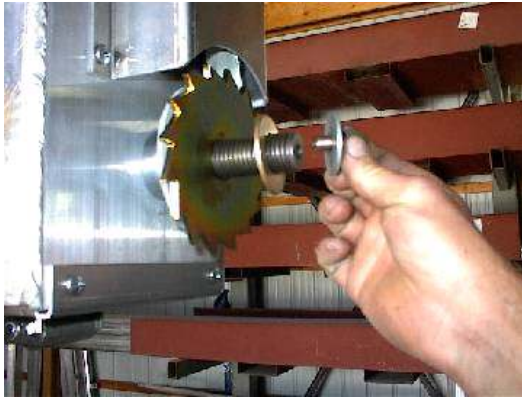
*View of winch on column.*



Tighten bolts like above pictures with a 9/16" socket on inside and a 9/16" open end wrench on outside. Grip with the wrench and tighten with the socket.



The wheel is missing the knob yet. Find a 3/8" x 2 1/2" bolt and 2- 3/8" whiz nuts. Put the bolt through the knob and spin one of the whiz nuts on. Don't spin the nut all the way to the knob or else it won't turn freely, leave a small gap. Put the rest of the bolt through the hole in the wheel plate and put a nut on the back side. Use an open end 9/16" wrench to hold the nut by the knob and tighten the nut on the back side of wheel plate.



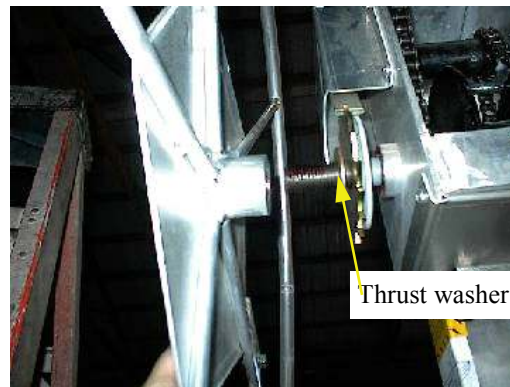
Next, take the 3/8" x 1" bolt out of the winch threaded shaft and steel washer. As shown above.



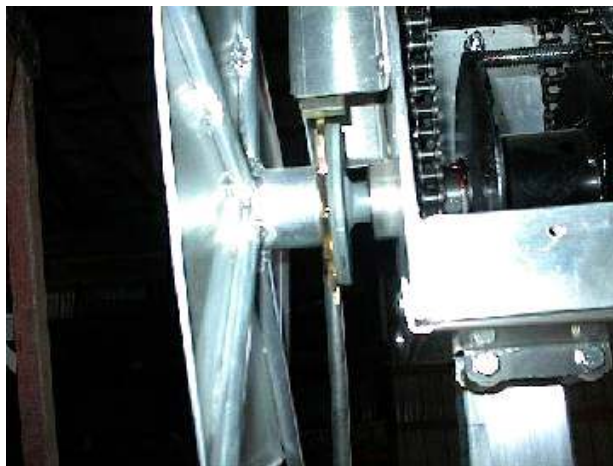
Next, it's a good idea to put a little grease on the threads (often times grease will already be on the threads). Just enough so the wheel can move on the threads and won't freeze up on them. Corrosion between the shaft and wheel prevents the winch brake from working properly.



The wheel sticker covers the hole for the winch threaded shaft to go through so the sticker needs to be cut out in the hole area.



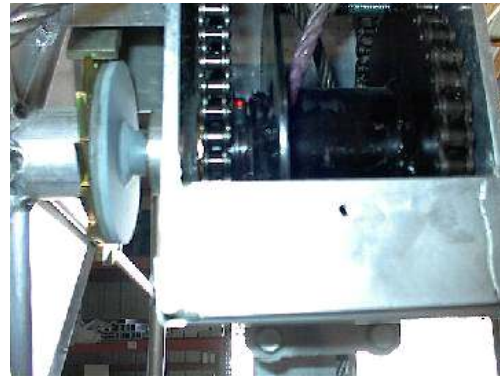
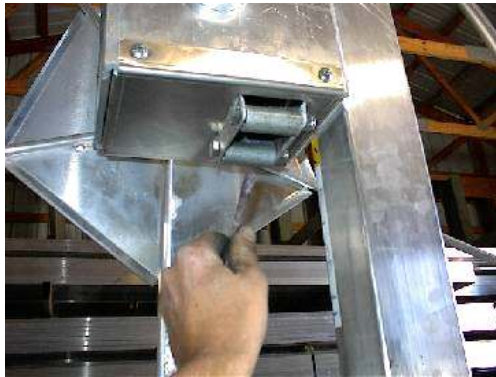
Next lets take the wheel and thread it on the winch clockwise. Thread it on until it comes in contact with the thrust washer. At this point when the wheel turns you should hear the ratchet paw clicking on the ratchet plate.



*View of wheel on winch.*



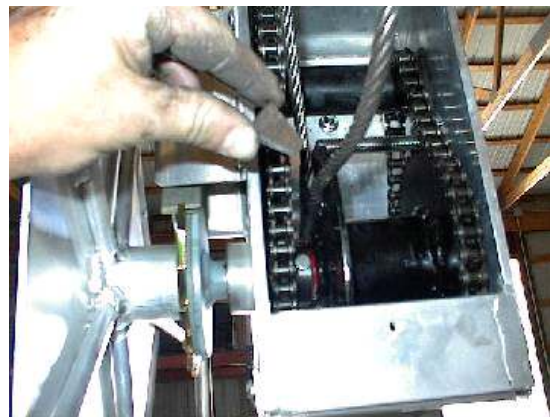
Put the 3/8" x 1" or 3/4" bolt and heavy 3/8" washer back on winch and tighten.



Installing the winch- Take cover off and bolt to winch column with 2 -3/8" x 4" bolts if not already done. Take the winch cable end (end without fitting) and thread through the bottom of the winch and through the hole on the inside of the cable spool.



Pull cable out and make a loop and put the end of the cable in the cable holder on the outside of the spool.



Place the cable wedge in the loop then pull cable tight and lock wedge in tight cable loop



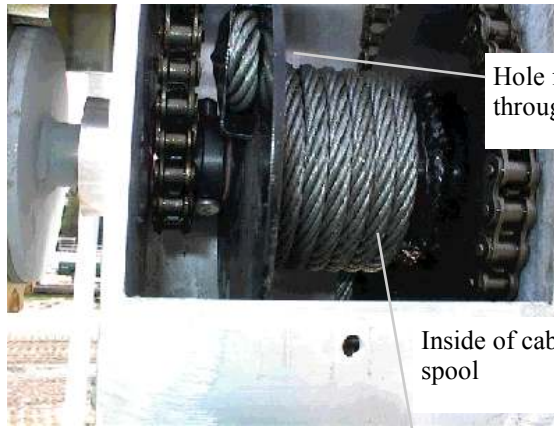
Loop cable



Insert cable wedge



Then pull cable tight through bottom of winch.



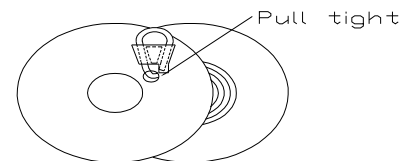
Hole for cable to go through in cable spool

Inside of cable spool

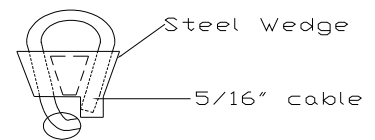
Level wind the cable in the winch spool like above by turning the wheel clockwise. A clicking should be heard when you brake racket paw against ratchet disk. At some point the hoist carriage will lift off the wood on the corners of the hoist. The platform should stay put when the wheel is let go. Sometimes the carriage needs some more weight on it to stay though. See below for more information. Install cover back in place.

After the hoist installation is complete, it is important to next check and see that the winch mechanism is functioning properly. You can do this by raising the empty platform up about a 1/3 of the way up and releasing your grasp on the lift wheel. If the winch is operating properly, clutch brake will automatically hold the platform (described as carriage sometimes). Repeat at higher locations. Next repeat this with your boat on the hoist. If the lift wheel begins to spin down freely from any of these test positions, at no time should you attempt to prevent it from doing so. Such action could result in injury to arms and hands. Instead simply let the platform spin down into the water. Doing so will neither damage your boat or hoist.

If for some reason your winch mechanism does not function as described call you local Craftlander dealer. Do not tamper with winch mechanism.



Winch Hub



Detail

If everything is done right, your hoist should look like the picture on the front cover.

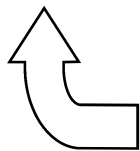
# Safety Precautions!!!

In order to prevent possible injury to both the operator and equipment it is extremely important that the lift wheel is always turned clockwise when raising the platform. Close attention should be paid to the decal on wheel raise and lower arrows. (***clockwise raises, counter clockwise lowers***) If cable is unwound counter clockwise and continued to turn counter clockwise the hoist will begin to raise causing winch damage and **brake will not work** which could cause injury. Under no circumstances should one raise the platform by turning the wheel counter clockwise. Never flip the ratchet located at the lower left corner of the winch box up or raise counter clockwise, as this will cause uncontrollable spin.

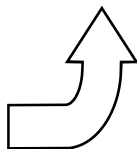


Raise clockwise

Lower (counter clockwise)



Raise



Lower



Ratchet, never lift up as this will cause uncontrollable spin

Winch

These stickers are similar to ones on the hoist wheel and column. Wheel brake works when cranking in the up direction only.

Stickers say:

Failure to follow below instructions will result in **uncontrolled spin down** and possible **personal injury** and or hoist damage.

Lift wheel must be turned clockwise for lifting. Do not raise hoist by turning wheel counter clock wise/down direction.

Possible personal injury and or hoist damage may result.

**DO NOT** work or play around or under hoist with boat in.

**Do NOT** leave hoist unattended without first securing wheel.

**DO NOT** reach through hoist wheel serious personal injury may result. Column sticker

**DO NOT** attempt to stop spinning wheel. Serious injury may result.



Wheel sticker

Hoists manufactured after January 2010 are supplied with vinyl covered aluminum bunks. Carpeted bunks are available upon request.

## Vinyl Covered Aluminum Bunks



## Carpeted Bunks



Back side of carpeted bunk with aluminum tube attachment.



Bunks shown assembled on the hoist. Fit and adjust to boat.  
Boat weight should be loaded 100% on the bunks.



After the hoist is installation is complete, it is important to next check and see that the winch mechanism is functioning properly. You can do this by raising the empty platform about a 1/3 of the way up and releasing your grasp on the lift wheel. If the winch is operating properly, the clutch brake will automatically hold the platform (described as carriage sometimes). Repeat at higher locations. Next repeat this with your boat on the hoist. If the lift wheel begins to spin down freely from any of these test positions, at no time should you attempt to prevent it from doing so. Such action could result in injury to arms and hands. Instead simply let the platform spin down into the water. Doing so will neither damage your boat or hoist. If the lift is cranked up as high as it will go and someone continues to crank the lift up the cable or boat lift will break at some point and boat will drop down. Only persons who have read the manual and understand the dangers of operation should use.

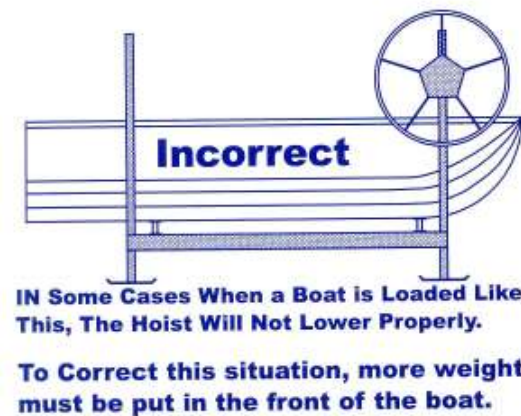
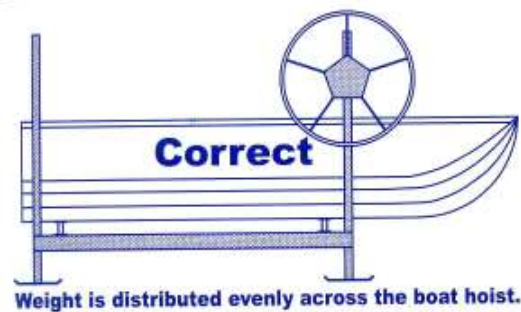
It is recommended that your Craftlander be thoroughly inspected at least once a season. Tighten all bolts. Check all pulleys and make sure they are turning freely. Inspect all cables for fraying, wearing or deteriorating. If any signs appear, replace cables. Check frame thoroughly. Grease the winch drive chain. Turn lift wheel off shaft. Remove washer and grease threads on winch **do not grease clutch plate on winch**. Check for rust on clutch plate and sand and clean off if needed. Install wheel back on lift with retaining bolt and washer and follow the raising instructions in this manual.

This is a typical safety precaution sticker that is applied to our hoists. If your sticker is not legible Be sure to contact your Craftlander dealer for a new one.





Hoist loading sticker used on all Vertical hoists.



This is a typical sticker put on our vertical lifts. If a boat is loaded on the hoist with too much weight on one end it may cause the lift to not work properly going down. The lift may bind and only one end will go down. If this situation happens, more weight needs to be placed on the light end of hoist to relieve pressure on the cables leveling it in that direction. (Do not put people in the boat for weight injury could result). When the hoist is down remove the weight and reload the hoist with better weight distribution.



Since 1979

## *Craftlander Boat Hoists*

### **Your Craftlander Hoist Limited Warranties**

During the terms of the Limited Warranties on your aluminum Craftlander hoist, NuCraft Metal Products, Inc. (hereafter referred to as “NuCraft”) covers the cost of all parts and labor needed to repair or replace any NuCraft supplied item that proves defective in material, workmanship or factory preparation. These repairs or replacements (parts and labor) will be made by your dealer at no charge using new or remanufactured parts.

### **Your Legal Rights Under NuCraft’s Limited Warranties**

All of the NuCraft Limited Warranties stated in this booklet are the only express written warranties made by NuCraft applicable to the aluminum Craftlander hoist. These Limited Warranties give you specific legal rights and you may also have other rights which vary from state to state. You may have some implied warranties, depending on the state in which your aluminum hoist is registered.

For example, you may have:

1. An “implied warranty of fitness for a particular purpose,” (that your hoist is reasonably fit for the general purpose for which it was sold);
2. An “implied warranty of fitness for a particular purpose,” (that your hoist is suitable for your special purposes; if your special purposes were specifically disclosed to NuCraft itself-not merely to the distributor or dealer-prior to purchase.)

These implied warranties are limited, to the extent allowed by law, to the time period covered by the written warranties set forth in this publication. Some states do not allow limitations on how long an implied warranty lasts, so the above limitations may not apply to you.

### **SUBSEQUENT BUYER/OWNER**

This Warranty is extended only to the first buyer/owner of the hoist. This is defined as the first legal owner of a NuCraft aluminum Craftlander other than an authorized Distributor or Dealer who has bought the hoist from NuCraft for resale to the public.

### **HOIST ALTERATION**

This warranty does not cover alteration of the aluminum Craftlander hoist, or failure of hoist components caused by such alteration.

### **PRODUCTION CHANGES**

NuCraft and its distributors/dealers reserve the right to make changes in aluminum Craftlander hoists built and/or sold by them at any time without incurring any obligation to make the same or similar changes on hoists previously built and/or sold by them.

### **Your 2-Year Basic Limited Warranty**

#### **WHAT IS COVERED:**

The 2-Year “Basic Warranty” covers every NuCraft supplied part on your aluminum Craftlander hoist and aluminum canopy support frame.

The “Basic Warranty” begins on your hoist’s Warranty Start Date. The Warranty Start Date is the earlier of (1) the date you take delivery of your new aluminum Craftlander hoist, OR (2) the date the hoist was first put into service (for example, as a dealer “demo” or as a NuCraft company hoist). The “Basic Warranty” lasts for 2 years (24 months) from this date.

The “Basic Warranty” covers the cost of all parts and labor needed to repair any item on your aluminum Craftlander hoist that is defective in material, workmanship or factory preparation. You pay nothing for these repairs.

### **Your 15-Year Fabricated Frame & Extrusion Warranty**

#### **WHAT IS COVERED:**

The “Frame and Extrusion Warranty” covers these parts and components of your aluminum Craftlander hoist frame for 15 years counted from your hoist’s Warranty Start Date:

Extruded Aluminum: columns, rails, spreaders, crossmembers, “Twin Beams”, legs, stands, extensions, canopy inserts, bows, rails, and clamps.

Fabricated: hoist wheel, winch, corner brackets, column guide plates, and footpads.

### **What your NuCraft Limited Warranties Do Not Cover**

Vinyl canopy covers are covered by a 5-Year Limited Warranty by the material manufacturer.

Your NuCraft Limited Warranties do not cover the costs of repairing damage caused by environmental factors or acts of God. “Environmental factors” include such things as airborne fallout, chemicals, tree sap, salt, ocean spray, and water hazards. “Acts of God” include such things as hailstorms, windstorms, tornadoes, sandstorms, lightning, floods and earthquakes.

Your NuCraft Limited Warranties do not cover the costs of repairing damage caused by poor or improper maintenance.

Your NuCraft Limited Warranties do not cover the costs of normal/scheduled maintenance of your aluminum Craftlander hoist. They do not cover the cost of lubrication, replacing cables or fasteners unless done as the result of repair covered by your 2-year “Basic Warranty”.

Your NuCraft Limited Warranties do not cover the costs of repairing damage or conditions caused by fire or accident; by abuse or negligence; by misuse: by tampering with parts; by improper adjustment or alteration; or by any changes made to your aluminum Craftlander hoist; the cost of rental hoist or slip; gasoline, telephone, travel or lodging; the loss of personal or commercial property; the loss of revenue, etc. NOTE: Some states do not allow the exclusion or limitation of incidental or consequential damages, so the above limitations or exclusions may not apply to you.

### **How To Get Warranty Service for Your Hoist**

Please contact the dealer from whom you bought the hoist for warranty service. When contacting your dealer, please provide them with your hoist’s model number, hoist serial number, date of purchase and the nature of the problem. If contact with the dealer is not feasible, please contact NuCraft Metal Products for further assistance.

*Proudly Made in Michigan*  
*By*  
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Roscommon, MI 48653