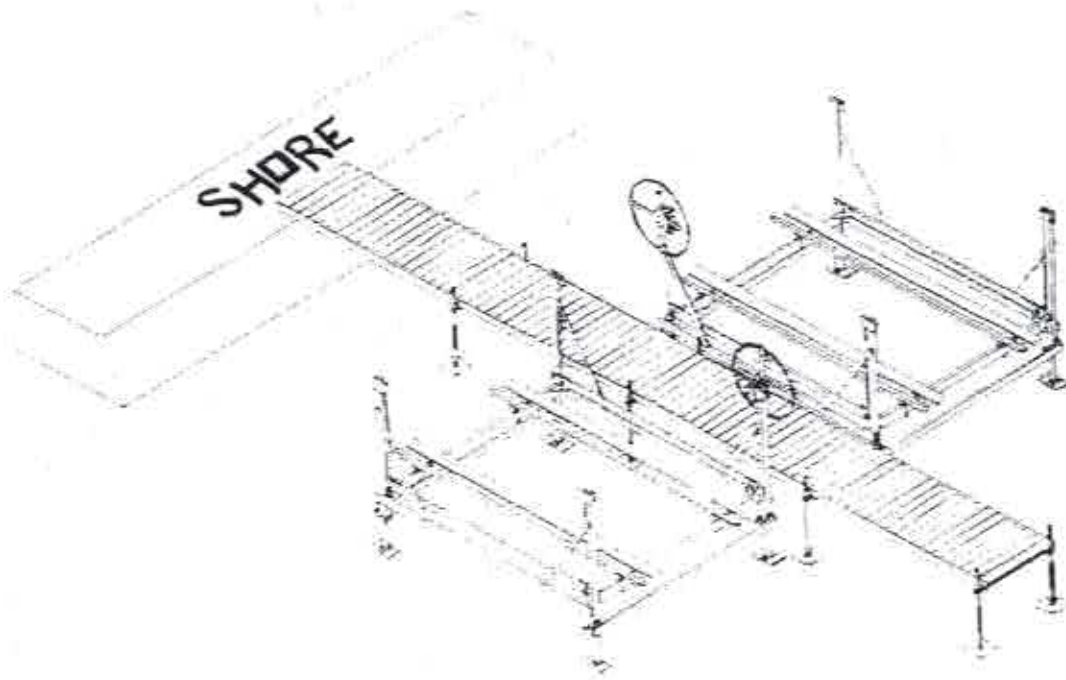


# ASSEMBLY INSTRUCTIONS

## STARR INDUSTRIES

The lift may be placed on either side of your dock as shown in Illustration A. The winch is mounted onto Tower A.



*Illustration A*  
*Lift Dock Placement Options*

# PL40120V

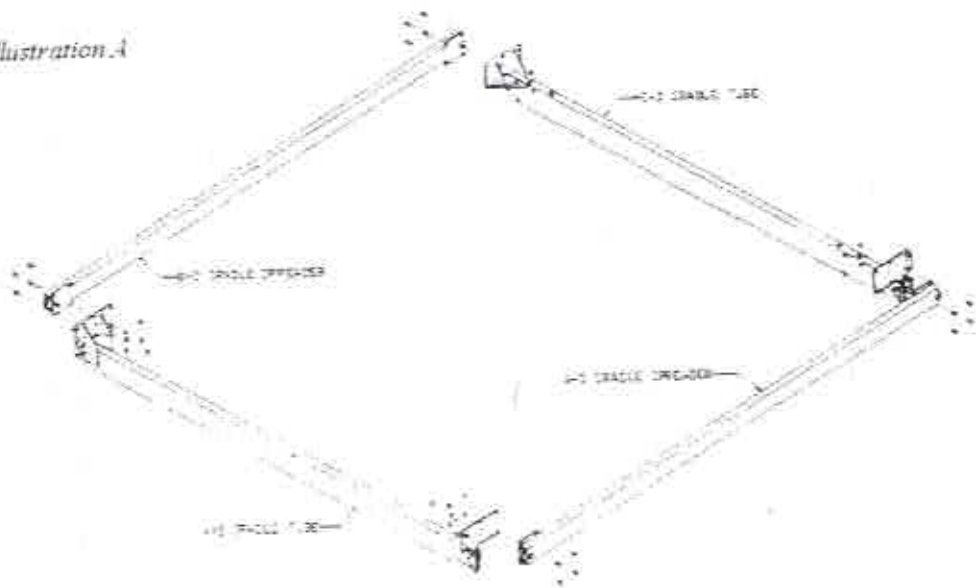
# Step #1

## Hardware used in this step:

(16) 3/8" x 1" Hex bolt S.S.

(16) 3/8" Lock Nuts S.S.

Illustration A



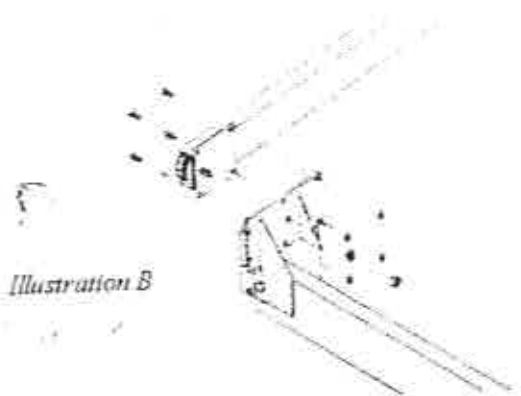
### Illustration A- Cradle Assembly

-1- Position both load tubes and spreader tubes on the ground as shown in the diagram.

-2- Carefully remove the 5/8" hex nut and washers from each end of both spreader tubes, but DO NOT remove the bolts from the tubes. This will prevent the sheaves from falling out.

-3- At each corner of the cradle, align the holes in the spreader tube with the holes in the load tube. Fasten the tubes together. Then refasten the 5/8" hex nut and washers.

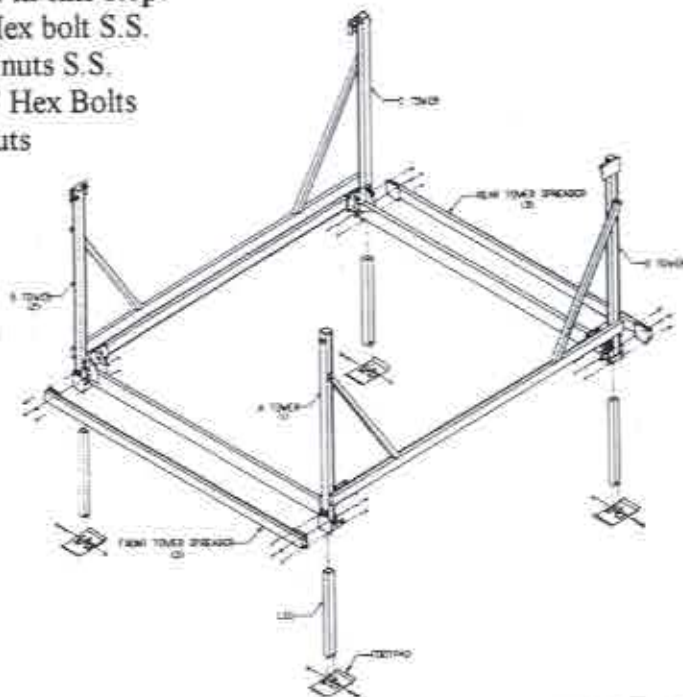
Illustration B



# Step #2

## Hardware used in this step:

- (16) 3/8" x 1" Hex bolt S.S.
- (16) 3/8" Lock nuts S.S.
- (4) 1/2" x 3 1/2" Hex Bolts
- (4) 1/2" Locknuts



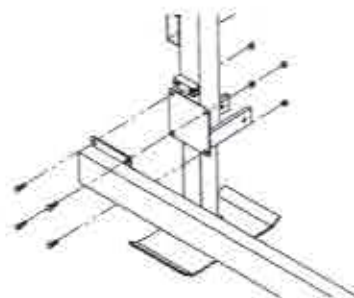
**Illustration C- Mounting the cradle to the frame**

- 1- Lift one of the frame sides and position it along a cradle spreader side of the cradle.
- 2- Place a cradle corner onto each of the foot plates so that the frame side stands.
- 3- Repeat Steps 1 and 2 for the other side of the lift.
- 4- Bolt the Footpads to the Legs.
- 5- Insert legs into Tower ends and tighten down with the Leg Nut Holders to desired length.

## **CAUTION!!!**

**THE CRADLE AND CRADLE SPREADER ARE ALREADY CABLED. MAKE SURE THE CABLE LOOPS ARE PASSING OVER THE SHEAVES AND POINTING TOWARDS THE BOTTOM BRACKET OF EACH VERTICAL LEG. EQUIPMENT MALFUNCTION AND DAMAGE WILL RESULT IF THE CRADLE IS NOT ORIENTED THIS WAY.**

- 5- Fasten a long horizontal tube across each end to connect the tow sides using hardware listed.
- 6- Square the frame by adjusting the verticals to achieve the same measured distance between them at both top and bottom. Tighten all fasteners. Re-measure and align if necessary.



**Illustration D**

# Step #3

## Illustration F- Cradle cabling and adjustment

- 1- Position the platform near the bottom end of its lifting range. Insure the platform is level.
- 2- Refer to Illustration F. The cradle and cradle spreader tubes are already cabled. Fasten the cable end loops to the bracket provided at the bottom of each of the four vertical legs.

### **CAUTION!!!**

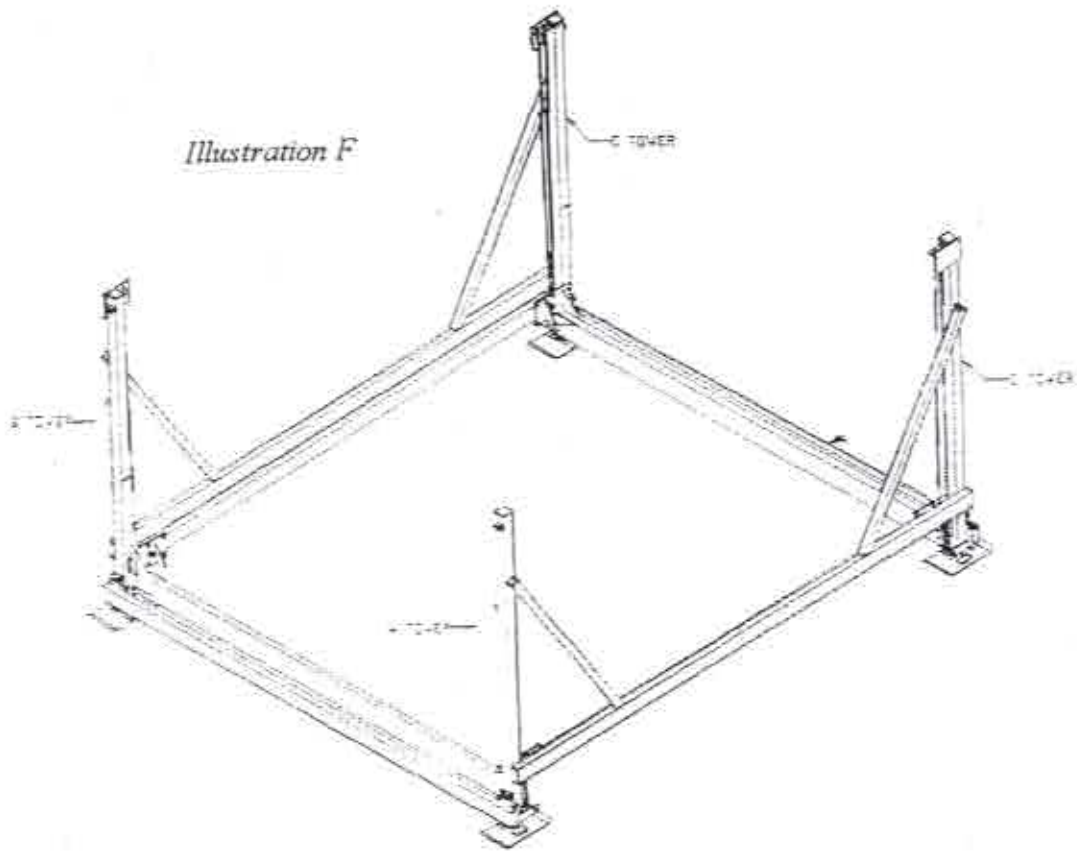
DO NOT "JAM TIGHT" THESE LOWER CABLE BOLTS OR YOU WILL BREAK OFF THE CABLE PLATES.

### **CAUTION!!!**

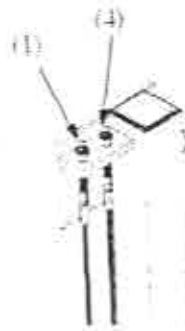
WEAR THICK GLOVES WHEN HANDLING WIRE CABLES. WITHOUT HAND PROTECTION, THIS CAN CAUSE SERIOUS PERSONAL INJURY.

- 3- Using a 7/8" open-end wrench, tighten the cable studs opposite the cable end loops in the following order. The following step numbers correspond to the step numbers shown in Illustration F.
  - Step 1: Tighten down the nut to add tension to the B-C cradle spreader cable.
  - Step 2: Tighten down the nut to add tension to the A-D cradle spreader tube cable. Check that the B-C and A-D cradle spreader tube cables are equal in tension and the cradle is level.
  - Step 3: Tighten down the nut to add tension to the first C-D cradle tube.
  - Step 4: Tighten down the nut to add tension to the second C-D cradle tube cable. Check that both C-D cradle tube cables are equal in tension and that the cradle is level.
- 4- Add and tighten the jam nuts to the cable nuts to lock the position.
- 5- During operation, when the cradle is being lifted, it is normal for the two cables in the C-D cradle tube to alternate from being tense to going slack. If you notice this, it is not necessary to further tighten down the nuts.
- 6- If the boat is not lifting level because the stern is lifting higher or lower than the bow, the cradle spreader tube cables are not tight enough. Repeat the first two substeps under Step 3 above.

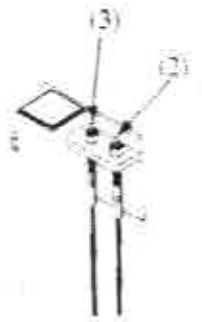
*Illustration F*



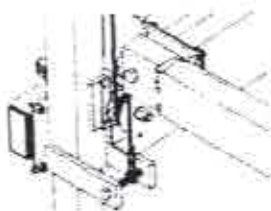
*Illustration F-1*  
*B Tower Top*



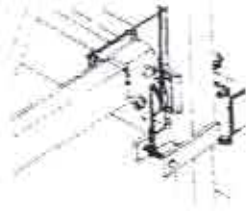
*Illustration F-2*  
*C Tower Top*



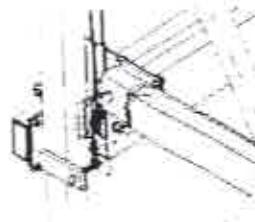
*Illustration F-3*  
*D Tower Top*



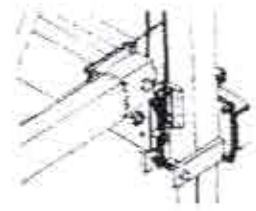
*Illustration F-4*  
*A Tower Bottom*



*Illustration F-5*  
*B Tower Bottom*



*Illustration F-6*  
*C Tower Bottom*



*Illustration F-7*  
*D Tower Bottom*

# Step #4

## Hardware used in this step:

- (5) 3/8"x1 1/2" Hex bolt S.S.
- (9) 3/8" Lock Nuts S.S.
- (10) 3/8" Flat washers
- (2) 3/8"x2 1/4" Hex bolt S.S.
- (3) 3/8"x4 1/4" Hex bolt S.S.
- (1) 5/16"x1 1/4" Hex bolt S.S.
- (1) 5/16" Flat washer
- (1) 3/4"x5/8"x7/8" Bushing

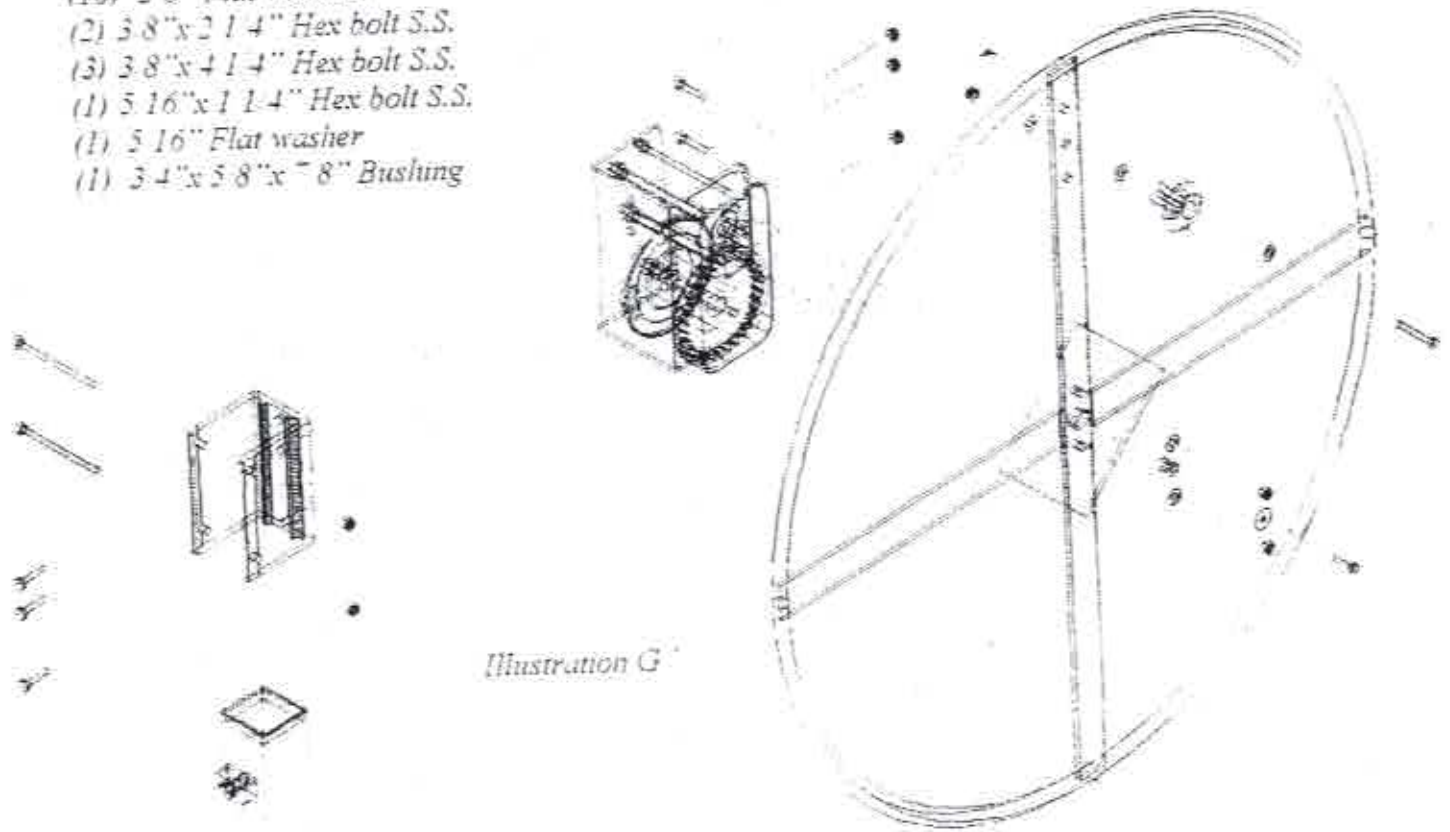


Illustration G

## Illustration G— Winch/Handwheel Mounting

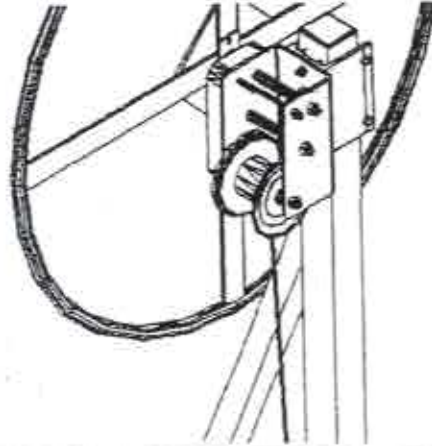
- 1- Refer to Illustration G. Clamp winch to Tower A. Mount the winch such that any optional canopy cover will not interfere with removing and replacing the winch cover.
- 2- Attach the handwheel to the winch adapter plate.
- 3- Attach the spinner knob to the handwheel using the preassembled hardware. Select the hole that is most comfortable for lowering the lift. NOTE: Leave this bolt slightly loose so spinner knob will spin.

## CAUTION!!!

DO NOT USE THE KNOB FOR LIFTING THE BOAT. THIS CAN CAUSE EQUIPMENT DAMAGE.

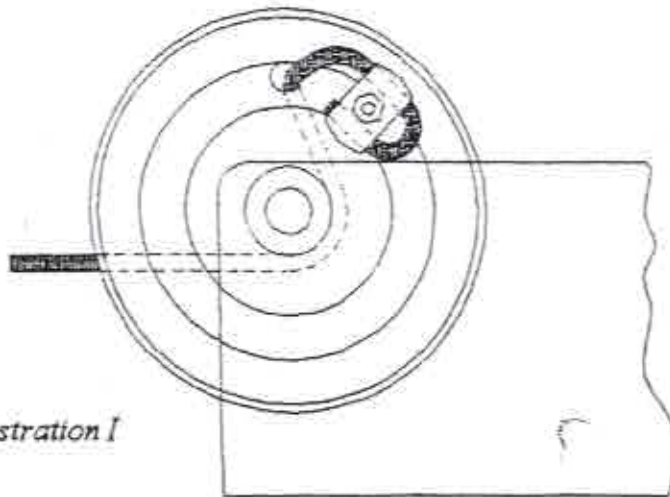
# Step #5

*Illustration H*



## **Illustration H&I- Winch Mounting and Cable Attachment**

Position winch so that cable approaches from reel end as shown below. Attach the cable by the method shown in the sketch.



*Illustration I*

# Step #6

## Hardware used in this step:

- (8) 3/8"x2 3/8"x 1/2" U-Bolts S.S.
- (8) 2"x4" Backer Plates alum.
- (16) 3/8" Lock Nuts S.S.

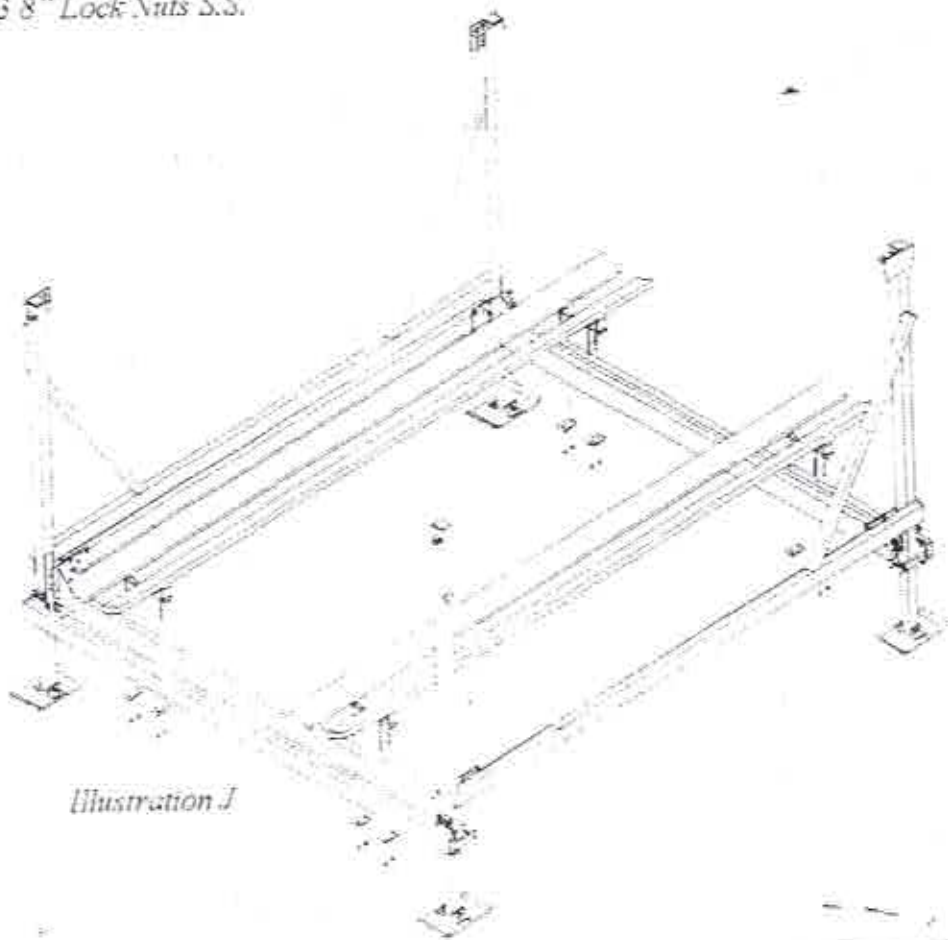


Illustration J

## Illustration J&K- Mounting the bunks to the Cradle

- 1- Mount bunk angles to the bunk brackets and cradle tubes using (8) 3/8"x2 3/8"x 1/2" U-Bolts with Backer Plates and Lock Nuts.
- 2- Move Bunk Bracket along Cradle tube to desired position & adjust to fit watercraft. Hint: You may use your watercraft trailer for a point of reference for bunk adjustment.
- 3- See Illustration K for a closer view.

**NOTE:** Use anti-seize compound on this step to allow for

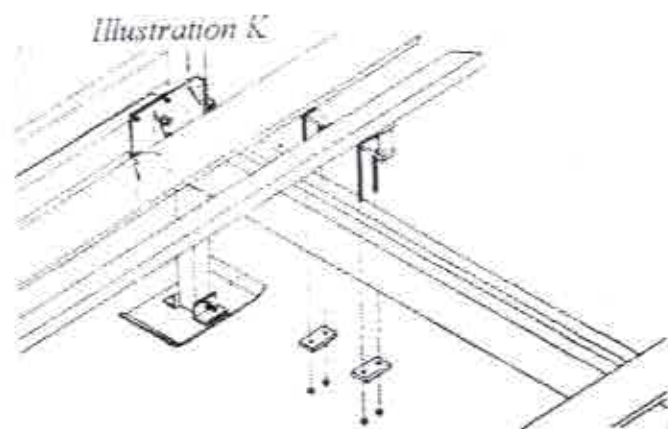


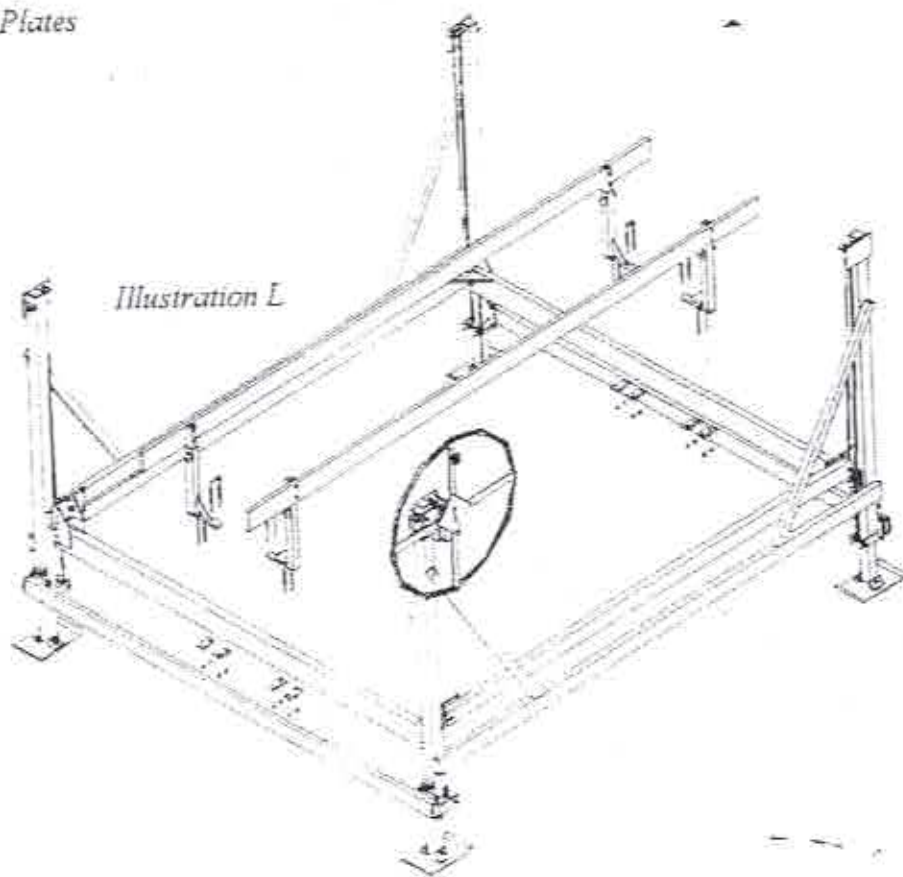
Illustration K



# Step #7

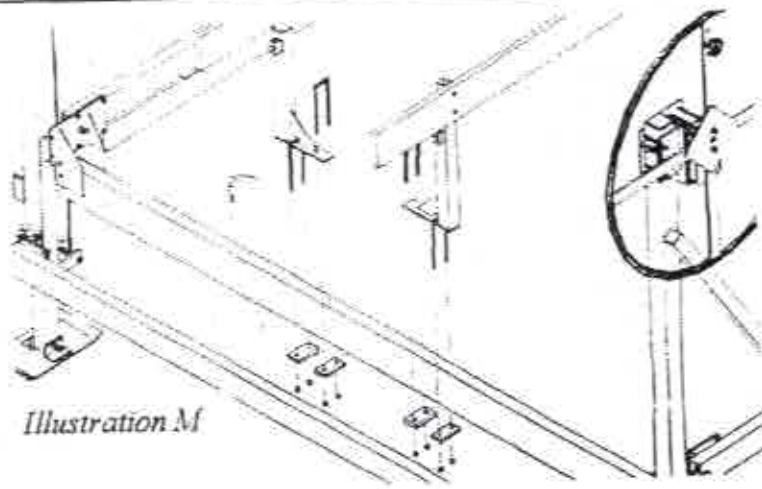
## Hardware used in this step:

- (8) 3/8"x 2 1/2"x 1/2" sq. U-Bolt S.S.
- (16) 3/8" Lock washers
- (16) 3/8" Hex Nut
- (8) 2x4 Backer Plates



## Illustration L&M- Mounting the Walk-On Guide-On's

- 1- Refer to Illustration L&M. Mount the bottom bracket to the cradle to desired distance using 3/8"x 2 1/2"x 1/2" sq. U-Bolt with backer plate, lock washers, and hex nuts.



# Step #8

## Caps used in this step:

- (8) 2x4 Plastic end caps
- (4) 3x3 Plastic end caps
- (4) 2x2 Plastic end caps

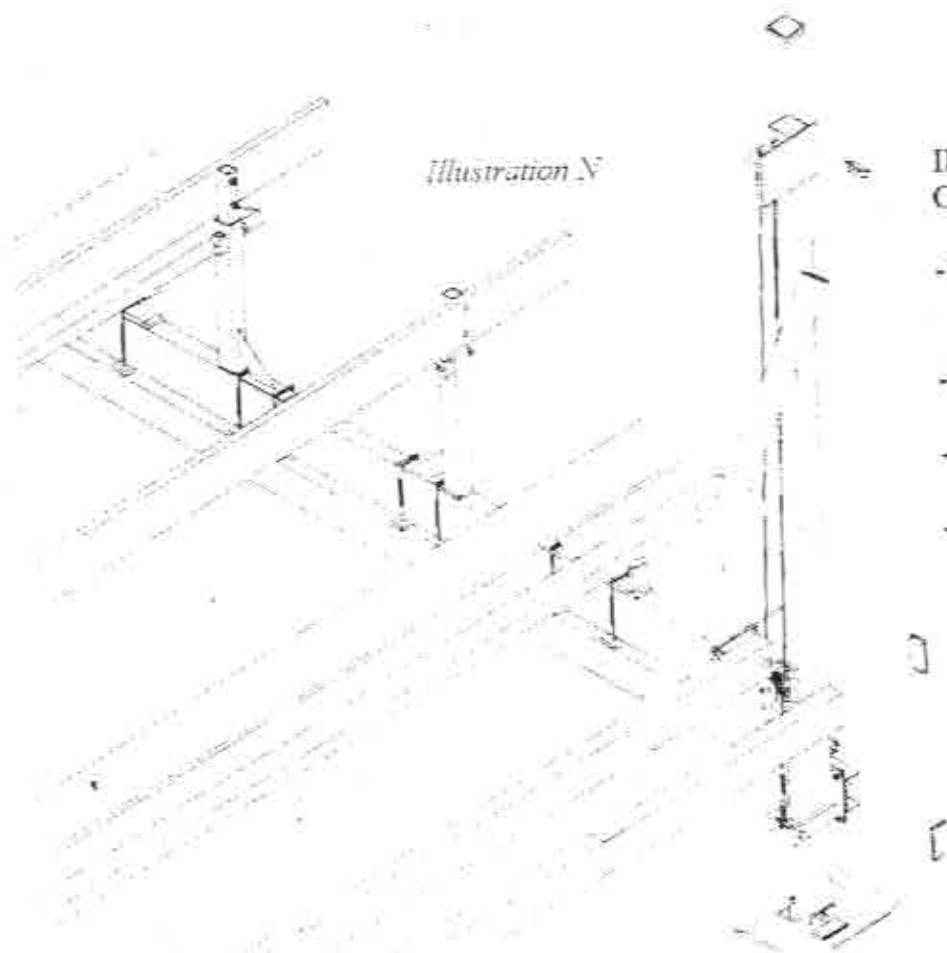


Illustration N- Inserting the End Caps

- 1- Insert 2x4 plastic end caps into Tower Assembly tube ends and Tower Spreader ends.
- 2- Insert 3x3 plastic end caps into Tower tube ends.
- 3- Insert 2x2 plastic end caps into Tower Assembly Angle tube ends
- 4- See Illustration N for details.

Enjoy your Watercraft Lift