

Grover C.
WATKINS, inc.

Telephone 502-442-1666 — Route 7 — PADUCAH, KY. 42001

SWINGER SERVICE BULLETIN

ISSUED: APRIL 5, 1974

INSPECTION OF SEATS, SUPPORTING CHAINS, HANGER RODS
AND SAFETY EQUIPMENT

Manufacturers of . . . the
Tempest
the
HUSTLER
AMUSEMENT RIDES

A periodic inspection of your Swinger seats, chains, hanger rods, and safety belts and restraining devices should begin immediately. This inspection should be carried out at least once a month or more frequently if possible.

INSPECTION OF SEAT SUPPORTING CHAINS

Have a person of at least 175 pounds sit in the seat and twist the four supporting chains as tightly as possible. After this has been done and the chains have been untwisted, inspect each link carefully for cracks, breaks, dents, cuts, or worn areas. Inspect the welds on the chains carefully to see that they have not pulled apart. Also inspect the S-hooks at each end of the chain to see that they have not opened and that they do not show wear or flat surfaces. The eye-bolts and nuts holding the seat to the chains should be inspected for opened eye-bolts and to see that the nuts holding the bolts to the seat are not loose. The chains on your seats have a safe working load of 520 pounds per chain when they are new. Wear, cuts, etc. will weaken the chain. Each seat should be inspected.

INSPECTION OF SEATS

Inspect the seats for cracks and chips, especially around seat belt brackets and eye-bolts.

INSPECTION OF HANGER RODS

Inspect the hanger rods for cracks, opened hooks, or excessive wear.

INSPECTION OF SEAT BELTS AND RESTRAINING CHAINS

Inspect the seat belts and restraining chains to see that they are fastened securely to the seat and that they show no cracks, cuts, or excessive wear. Also check to see that they are in safe working order with no broken springs.

IF ANY OF THESE DEFECTS OCCUR, CALL THE FACTORY IMMEDIATELY.
PHONE 502/442-1666. DO NOT OPERATE UNTIL YOU NOTIFY US.

We are notifying you for your protection and the protection of your customers. We feel that we have quality designs and equipment. To keep the ride in safe working order, inspect the above mentioned items at least ONCE A MONTH BEGINNING IMMEDIATELY.

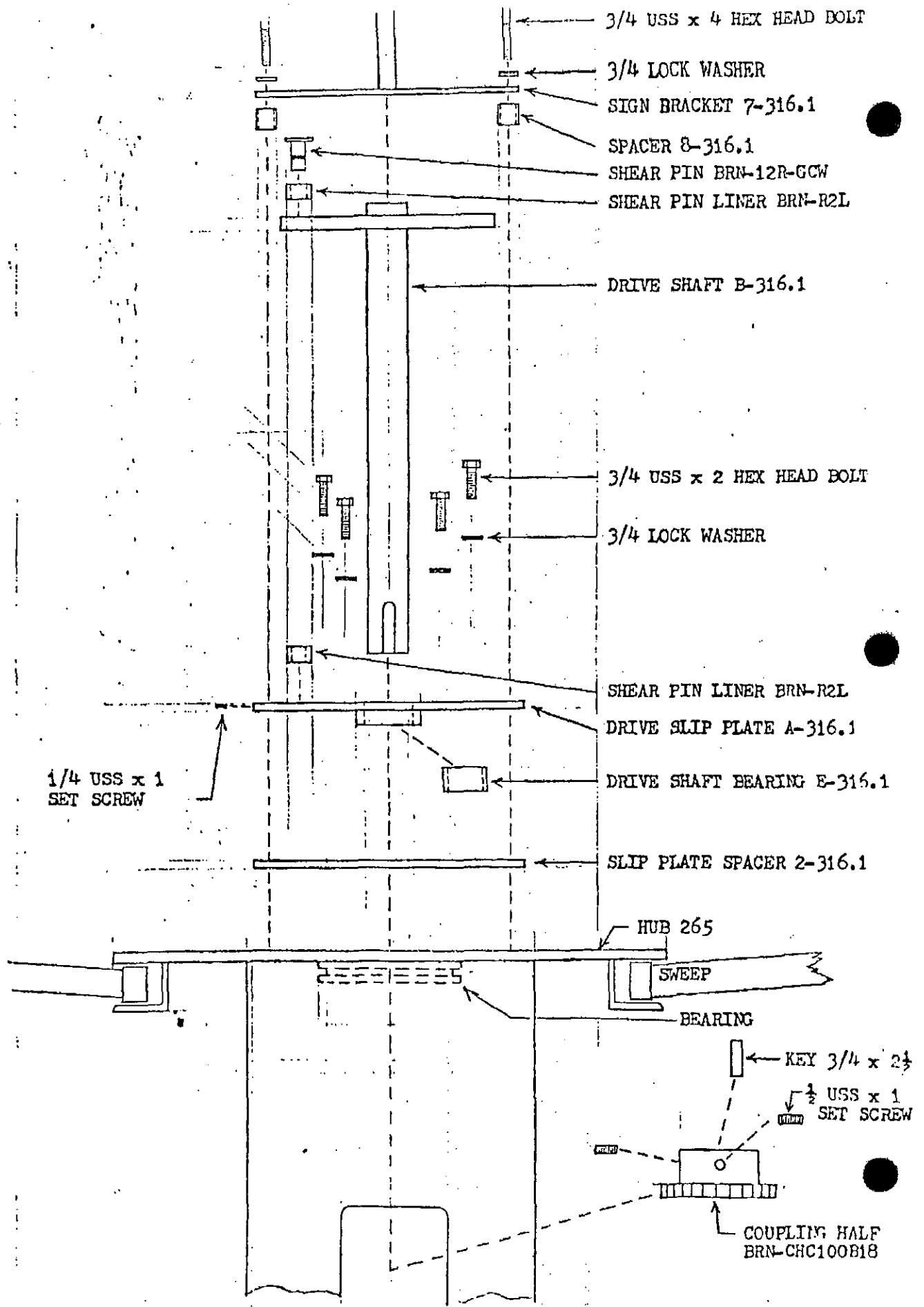
ADJUSTMENT AND INSPECTION OF SWINGER HUB ROLLERS AND ROLLER TRACK

The six sets of rollers located on the side of the hub should be periodically inspected to see that they are properly adjusted. The track they roll on should be inspected to see that the rollers are not wearing into the steel. As wear occurs, a clearance between the rollers and track will develop. These rollers should be adjusted on one track at a time. Three rollers run on each track. Two of these rollers should show no clearance and the third should have a clearance of .010 inch. Some shims may have to be removed and smaller ones added to adjust the roller retainer bracket.

NOTE: If any of these rollers are removed, be sure to put each individual assembly back in its own place. These rollers and retainers are custom fitted to each individual ride at the factory.

A quick check each week to see if the rollers have excessive wear or clearance is to pull downward on one of the seats so as to try to rock the top of the ride. If you can do so, the bearings have too much clearance. A monthly check of the rollers and track at close inspection is recommended.

The outer surface of the rollers should never be allowed to run against the roller track without lubrication. A lithium type grease should be applied to the outer surface of the rollers.



SERVICE BULLETIN

ISSUED: April 5, 1974

INSPECTION OF SEATS, SUPPORTING CHAINS, HANGER RODS AND SAFETY EQUIPMENT

A PERIODIC INSPECTION OF YOUR SWINGER SEATS, CHAINS, HANGER RODS AND SAFETY BELTS AND RESTRAINING DEVICES SHOULD BE CARRIED OUT AT LEAST ONCE A MONTH AND MORE FREQUENTLY IF POSSIBLE.

INSPECTION OF SEAT SUPPORTING CHAINS

Have a person of at least 175 pounds sit in the seat and twist the four supporting chains as tightly as possible. After this has been done and the chains have been untwisted, inspect each link carefully for cracks, breaks, dents, cuts, or worn areas. Inspect the welds on the chains carefully to see that they have not pulled apart. Also inspect the S-hooks at each end of the chain to see that they have not opened and that they do not show wear or flat surfaces. The eye-bolts and nuts holding the seat to the chains should be inspected for opened eye-bolts and to see that the nuts holding the bolts to the seat are not loose. The chains on your seats have a safe working load of 150 pounds per chain when they are new. Wear, cuts, etc. will weaken the chain. Each seat should be inspected.

INSPECTION OF SEATS

Inspect the seats for cracks and chips, especially around seat belt brackets and eye-bolts.

INSPECTION OF HANGER RODS

Inspect the hanger rods for cracks, opened hooks, or excessive wear.

INSPECTION OF SEAT BELTS AND RESTRAINING CHAINS

Inspect the seat belts and restraining chains to see that they are fastened securely to the seat and that they show no cracks, cuts or excessive wear. Also check to see that they are in safe working order with no broken springs.

IF ANY OF THESE DEFECTS OCCUR, CALL THE FACTORY IMMEDIATELY
PHONE 502/442-1666. DO NOT OPERATE UNTIL YOU NOTIFY US.

We are notifying you for your protection and the protection of your customers. We feel that we have quality designs and equipment. To keep the ride in safe working order, inspect the above mentioned items at least ONCE A MONTH.

OPERATION

THIS RIDE MUST BE KEPT BALANCED.

When admitting passengers through the gates, tell the first four people to sit in the same color seats, the next four people to sit in another color, etc. This will save time in balancing the ride.

1. See that all passengers have seat belts fastened and safety chains connected.
2. With engine running, move control lever slowly forward until full speed is obtained. At the end of the cycle, move the control lever back through neutral into the braking position which is all the way back toward the operator. When the ride has come to a stop, move the control lever back to neutral.
The neutral position can be felt.

EMERGENCY SERVICE BULLETIN TO SWINGER OWNERS

July 30, 1974

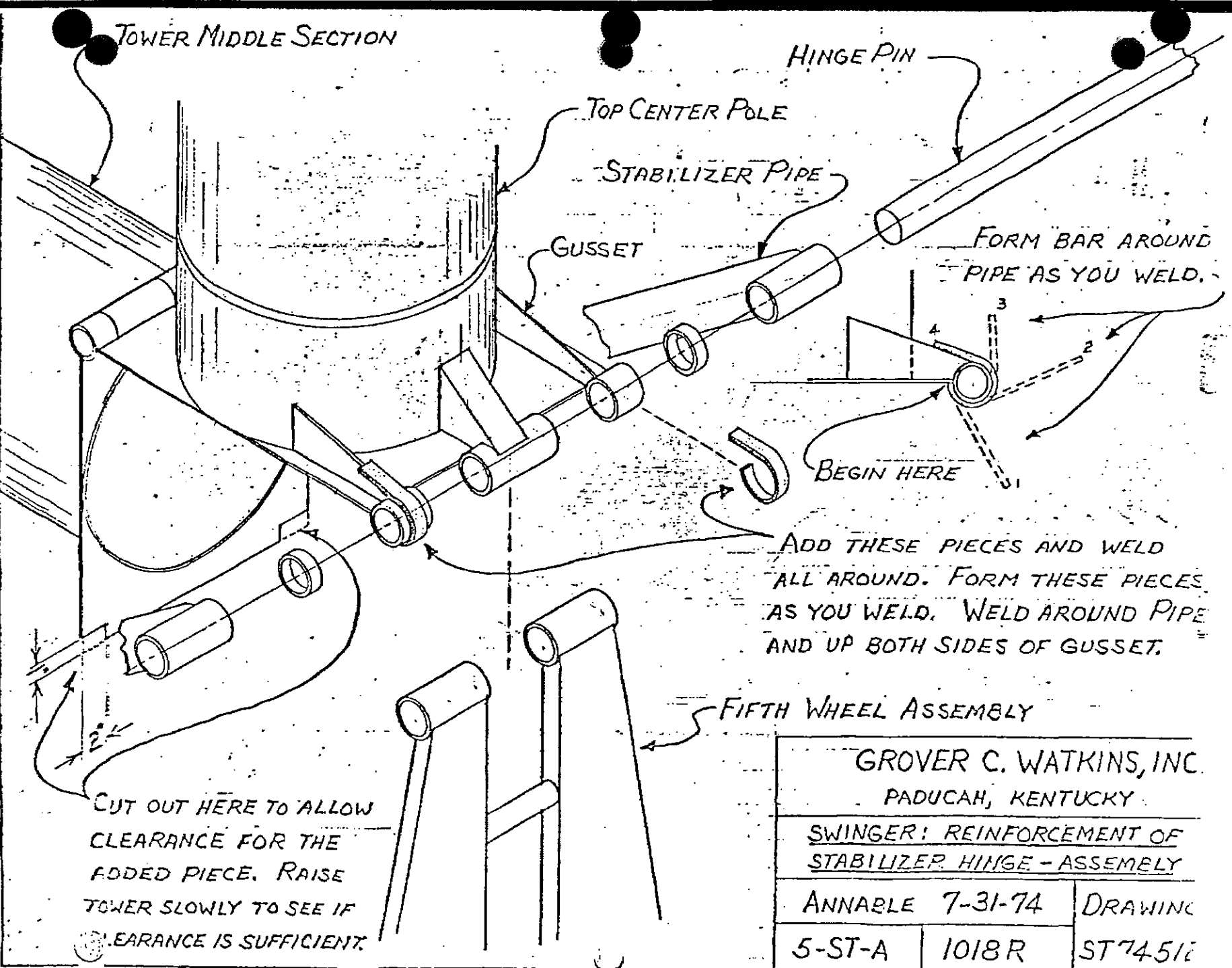
There is a possibility that there is a defective internal weld in some of the tubing used in the fabrication of the hinges on your Swinger tower. This weld is not visible from the outside but if it fails, a serious accident could result.

Please make a thorough inspection of all three tower hinges immediately. This inspection must be made with the tower lying in its cradle so that all surfaces of the hinge are exposed. Examine minutely each of the hinge tubes in the hinge at the lower part of the tower, the hinge at the top of the tower, and the hinge at the point where the stabilizer pipes connect to the top center pole. Look for cracks in the tubes or for weld failures. If any such failure is found, DO NOT OPERATE THE SWINGER BUT CALL US COLLECT IMMEDIATELY AT (502) 442-1666.

We are providing reinforcements for the hinge, which are packed with this bulletin. Included with the parts are detailed instructions on how to reinforce the hinge. This should be done by a certified welder as soon as convenient. We will reimburse you for the costs of welding these reinforcements, or if you prefer, we will add the reinforcements at our plant at no charge.

GROVER C. WATKINS, INC.
P. O. Box 218
Paducah, Kentucky 42001

TOWER MIDDLE SECTION



HINGE PIN

TOP CENTER POLE

STABILIZER PIPE

GUSSET

FORM BAR AROUND PIPE AS YOU WELD.

BEGIN HERE

ADD THESE PIECES AND WELD ALL AROUND. FORM THESE PIECES AS YOU WELD. WELD AROUND PIPE AND UP BOTH SIDES OF GUSSET.

FIFTH WHEEL ASSEMBLY

CUT OUT HERE TO ALLOW CLEARANCE FOR THE ADDED PIECE. RAISE TOWER SLOWLY TO SEE IF CLEARANCE IS SUFFICIENT.

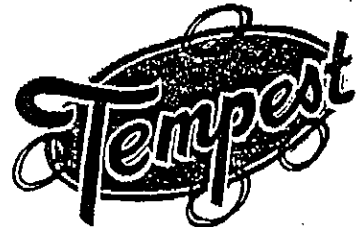
GROVER C. WATKINS, INC.
PADUCAH, KENTUCKY

SWINGER: REINFORCEMENT OF STABILIZER HINGE - ASSEMBLY

ANNABLE	7-31-74	DRAWING
5-ST-A	1018R	ST7451E

RECEIVED

AUG 14 1974



August 13, 1974

SKI/CARNIVAL DIV.
DEPT. OF LABOR

USTR R

Department of Labor, Bureau of Safety Regulations
Department of Labor Building
300 E. Michigan Avenue
Lansing, Michigan 48913

CONCERNING AMUSEMENT RIDE "SWINGER"

Manufactured by: Grover C. Watkins, Inc. of Paducah, Kentucky

Enclosed, for your files, are service bulletins issued to owners of the amusement ride "Swinger".

Also enclosed is a bulletin, issued to Departments of Safety in each state, showing reinforcement of one of the sweeps on the "Swinger". In the past we have noted that one particular sweep, of the twelve used, showed signs of metal fatigue. This happens from reversing stresses during the transportation of the ride. If your inspectors find signs of metal fatigue on the rigid (not hinged) sweep-the enclosed drawing shows how this situation may be corrected. The sweep referred to is the one anchored to the tower while in travelling position.

Only six "Swingers" were built without this modification. If one does not have this reinforcement added-inspect it carefully. See that this reinforcement is added only by a certified welder and DO NOT allow welding to be added across the width of the two inch square tubing. All welding must be done longitudinally.

Thank you

Ed
Ed Annable, Engineer
Grover C. Watkins, Inc.

Kits and instructions for adding this reinforcement may be obtained from the manufacturer.

Grover C.
WATKINS

Telephone 502-442-1666 — P. O. Box 218 — PADUCAH, KY. 42001

September 9, 1977

EMERGENCY SAFETY BULLETIN

A failure of the tower top hinge on the Swinger has occurred. This failure was caused by not having the large turnbuckle strut pinned in place while transporting the ride. (See drawing #1 attached.)

IT IS ABSOLUTELY ESSENTIAL THAT THIS MEMBER BE IN POSITION WHILE THE RIDE IS IN TRAVEL MODE. IF IT IS LEFT OUT, EXCESSIVE STRESSES WILL CERTAINLY CAUSE FATIGUE AND FAILURE OF THE HINGE.

We urge you to inspect carefully all hinges on your Swinger immediately. If any cracks are found, please call us collect.

It has also come to our attention that some Swinger operators are moving the Swinger without connecting the sway bars. (See attached drawing #2.)

These bars are critical to the safety of the ride on the highway. Use a bar no longer than 16" to tighten the turnbuckle and lock the turnbuckle with the jam nut securely.

GROVER C. WATKINS, INC.

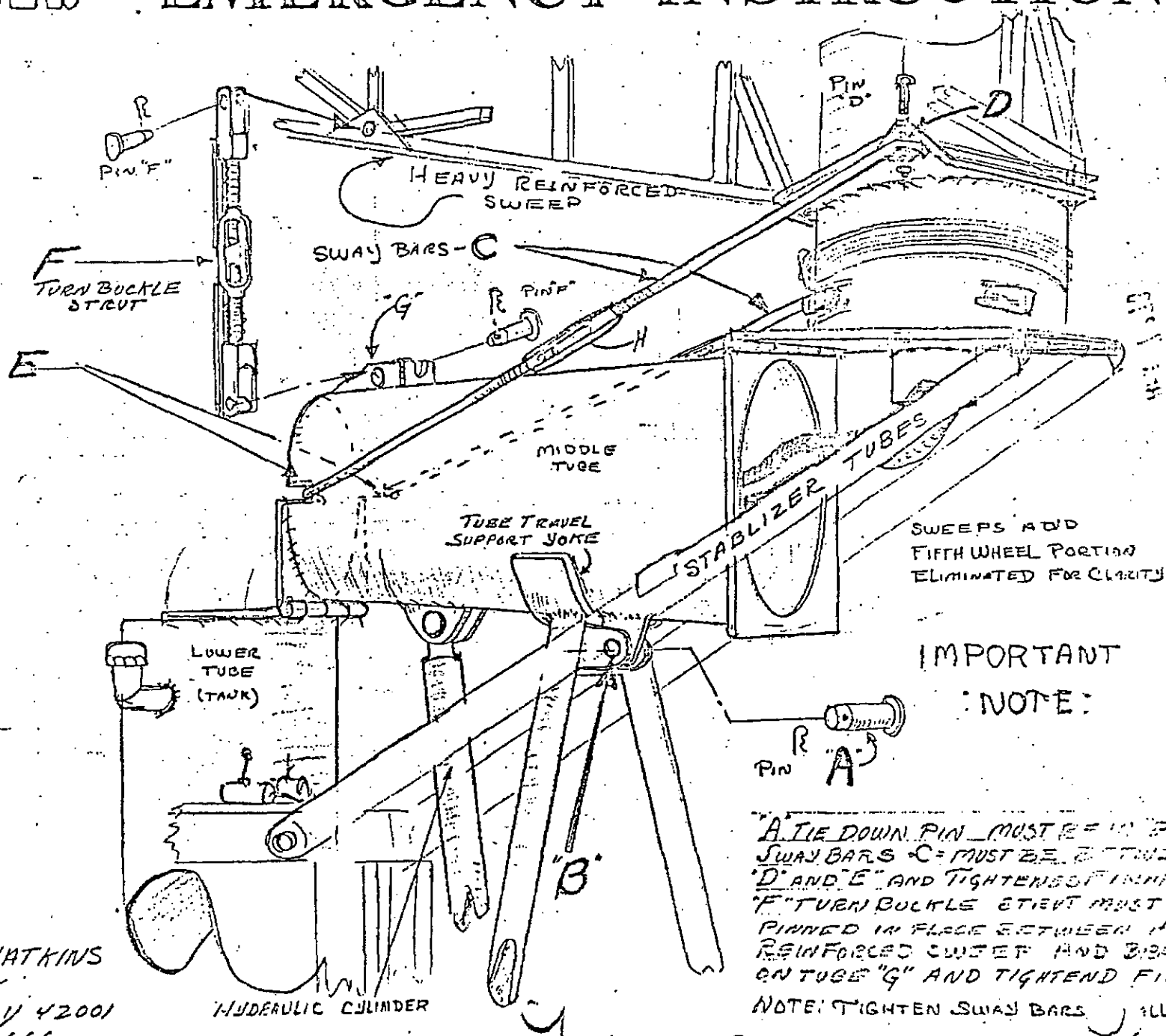
RECEIVED

APR 7 1978

SKI/CARNIVAL DIV.
DEPT. OF LABOR

SWINGER

EMERGENCY INSTRUCTIONS



DWG. NO. 1

SWEEPS AND FIFTH WHEEL PORTION ELIMINATED FOR CLARITY

IMPORTANT NOTE:

"A" TIE DOWN PIN MUST BE IN "B"
 SWAY BARS "C" MUST BE BETWEEN
 "D" AND "E" AND TIGHTENED FIRMLY
 "F" TURN BUCKLE STRUT MUST BE
 PINNED IN PLACE BETWEEN HEAVY
 REINFORCED SWEEP AND BRACKET
 ON TUBE "G" AND TIGHTENED FIRMLY
 NOTE: TIGHTEN SWAY BARS FULLY

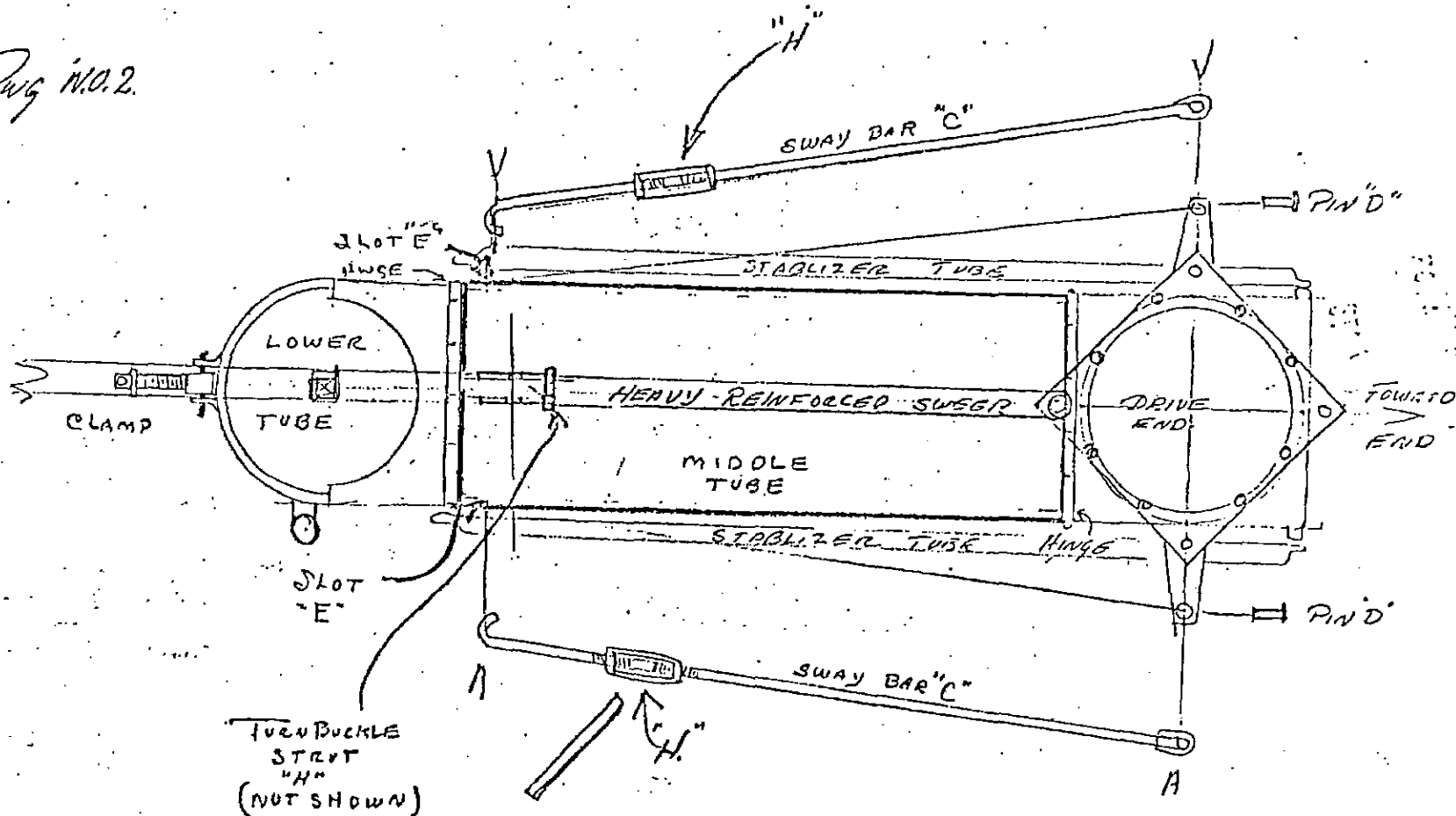
ROVER C. WATKINS
 P.O. BOX 218
 PADUCAH KY 42001
 502-44-1666

HYDRAULIC CYLINDER

9-1-77 WF

SWINGER EMERGENCY INSTRUCTIONS

Dwg No. 2.



IMPORTANT
TIGHTEN TURNBUCKLES "H" EQUALLY
DO NOT OVERTIGHTEN

H = TURNBUCKLES

9/8/77 W.F.



FOR OFFICIAL USE ONLY

U.S. CONSUMER PRODUCT SAFETY COMMISSION
WASHINGTON, D.C. 20207-0001

OFFICE OF COMPLIANCE

Division of
Corrective Actions

J. A. De Marco
Compliance Officer
Tel: 301-504-0608 ext. 1353
Fax: 301-504-0359

TO: ALL AMUSEMENT RIDE SAFETY OFFICIALS

**IMPORTANT
AMUSEMENT RIDE SAFETY ALERT!**

RE: Grover C. Watkins - "SWINGER"

JUNE 21, 1996

The U.S. Consumer Product Safety Commission (CPSC), in cooperation with the State of Florida Bureau of Fairs and Expositions investigated an amusement ride accident which occurred June 15, 1996 at Funland & Fleaworld, Sanford, Florida, involving a Grover C. Watkins "Swinger" mobile/trailer mounted ride. The ride, which was approximately 22 years old, was operating at start-up speed (approximately 1.5 to 2 rpm's) when the hub separated from the upright tube causing all the sweeps to drop to the ground (approximately 3 to 4 feet). Seven children, all under the age of 12, were treated at a local hospital, for cuts, bruises and abrasions and released.

The Grover C. Watkins "Swinger" riders were manufactured from 1970 to 1977 in Paducah, KY. Approximately 107 units may have been produced and sold to carnival, fair and amusement ride operators in the U.S., Canada and Puerto Rico.

The area of the ride where the failure allegedly occurred may not have been a critical inspection area of the ride. Furthermore, it is an area which presents some difficulty for inspection.

FOR OFFICIAL USE ONLY

After examining a "Swinger" ride with the Maryland Division of Labor and Industry the CPSC is asking all state and local amusement ride safety inspectors and officials who are inspecting the "Swinger" in their jurisdictions, as well as, owners and operators of the ride to take the following steps to insure these critical areas are inspected:

1. Measure the gap between the hub and the upright tube. The gap should be 3/8-inch to 1/2-inch wide. If gap is insufficient, pull hub and upright tube apart. Inspect all surfaces for wear and cracking. Welds on the entire tubes surfaces and structure should be inspected for cracks. Repair as necessary. Non-destructive techniques should be used for crack inspection [See Fig.1].
2. Measure spacing of radial bearing rollers and spindle. It should be 0.010-inch. If not, adjust to 0.010-inch [See Fig. 2].
3. Repair is necessary if it appears that the hub has worn into the spindle plate.
4. If damage is observed on any surface of the upright tube, welds, spindle, spindle plate, or hub, pull the hub off of the spindle. Inspect and repair as required.
5. This inspection should be done in addition to regular swinger inspection procedures.
6. This inspection should be done at every set-up or every 200 hours, whichever comes first.

As additional information becomes available we may update this alert. Please note that our statute permits us to share this information with you -- but you are not authorized to release it to the public.

For further information contact:

J. A. DeMarco, Division of Corrective Actions at (301) 504-0608 x 1353 or Tom Caton, Division of Mechanical Engineering at (301) 504-0504 x 1305.

FOR OFFICIAL USE ONLY

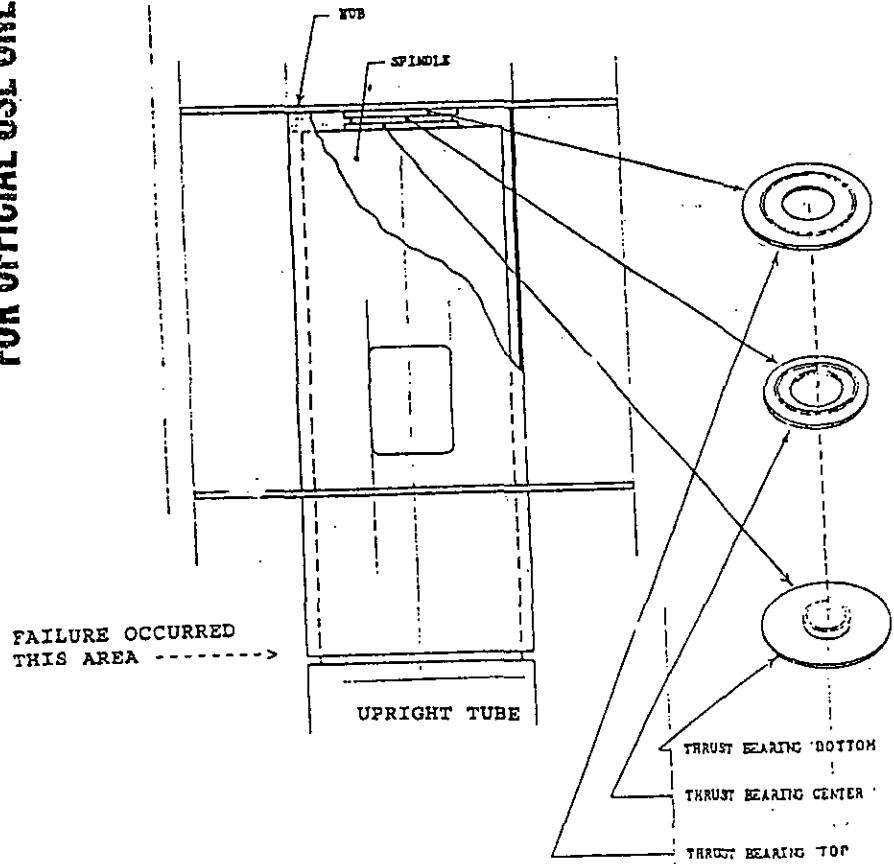


FIGURE 1 - AREA OF FAILURE

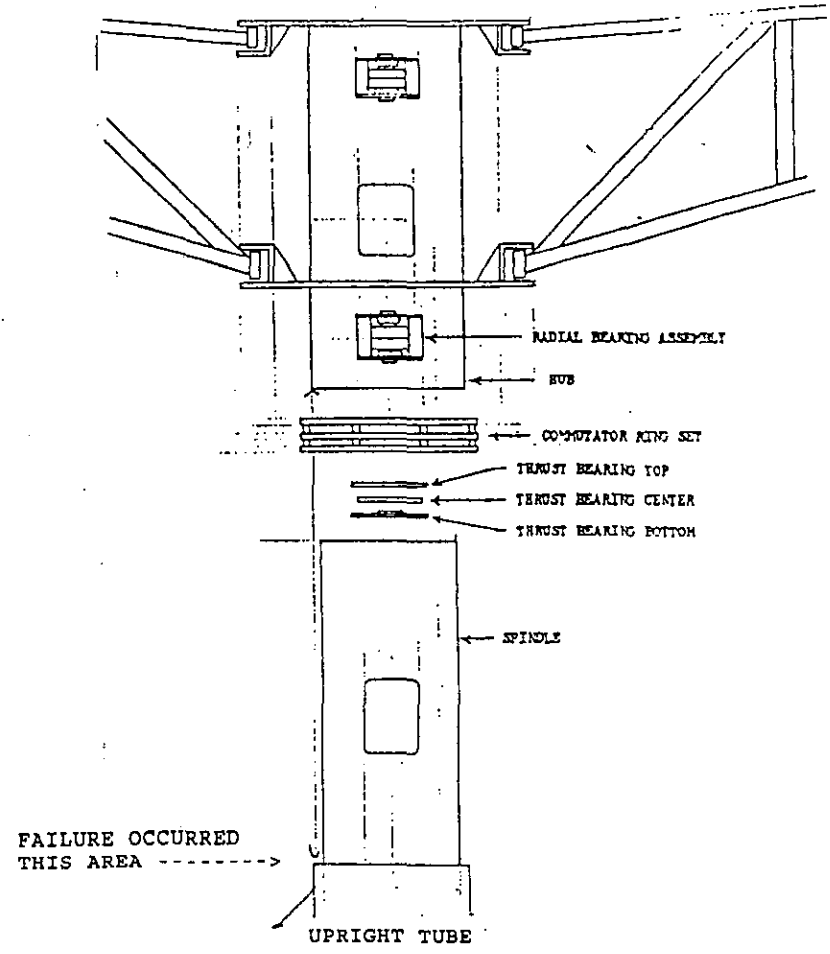


FIGURE 2 - CLOSE-UP AND EXPANDED SCHEMATIC OF SUBJECT AREA



United States
CONSUMER PRODUCT SAFETY COMMISSION
Washington, D.C. 20207

FOR OFFICIAL USE ONLY

MEMORANDUM

DATE: July 9, 1996

TO : J. A. DeMarco, CECA
Through: Troy Whitfield, ESME [reviewed by tww]
FROM : Thomas E. Caton, ESME [signed by tec]

SUBJECT: PSA 0788.96, Grover C. Watkins "Swinger" Amusement Ride
REQUEST

Write up technical assessment on work done for accident investigation and ride evaluation.

DISCUSSION

On June 15, 1996, an approximately 22-year old Grover C. Watkins "Swinger" amusement ride at Sanford, Florida suffered a separation of its hub from its upright tube. The upright tube supports ten sweeps. Each sweep has a pair of swings hanging from them. The ride was just starting from stop and was reported to be rotating at 1.5 to 2 rpm. When the incident occurred, the sweeps and seats with riders dropped to the ground. The seven children riders were taken to the hospital for cuts, bruises, abrasions, and released. The resident Florida investigator photographed the incident ride and faxed copies of these photographs to headquarters.

On June 19, 1996, I went to Sharpsburg, MD to view and compare the faxed photographs with an actual "Swinger" ride. I viewed this "Swinger", that was owned by Snyder Amusements, with two state of Maryland amusement ride inspectors and the ride's owner. This "Swinger" had been recently renovated. By comparing this ride with the faxed photographs, we decided that the incident may have occurred because the thrust bearings had worn. As the thrust bearings wore, it is believed that the rotating hub began to wear into the spindle plate of the upright tube. This wearing is believed to have led to the separation of the hub from the upright tube in the Florida incident.

Based on this failure hypothesis and consultations with amusement ride inspectors, from the states of Florida, Illinois, Kentucky, and Maryland, CECA and ESME issued a national safety alert on June 21, 1996. This safety alert proposed several critical inspection areas for deciding if excessive wear has occurred with the thrust bearings. The inspection was recommended to be done at every set-up or every 200 hours, whichever comes first.

CPSA 6 (b)(1) Cleared
W. Watkins
No Mfrs/PrvtLbls or
Products Identified
Excepted by _____
Firms Notified,
Comments: _____
CPSC/FILE of
THE SECRETARY

~~FOR OFFICIAL USE ONLY~~

1998 SEP 23 P 3:15

LOG OF TELEPHONE CALL
DIRECTORATE FOR ENGINEERING SCIENCES
MECHANICAL ENGINEERING DIVISION

SUBJECT: Grover C. Watkins Swinger CPSC Safety Bulletin 1996

DATE OF CALL: 17 September 1998

LOG ENTRY SOURCE: Thomas E. Caton

COMMISSION REPRESENTATIVE: Thomas E. Caton, ESME

NON-COMMISSION REPRESENTATIVE: Jerry Butler
State of South Carolina

SUMMARY OF CONVERSATION:

Mr. Butler called about the Grover C. Watkins CPSC safety bulletin issued in 1996. Mr. Butler wanted clarification as to what we meant by nondestructive inspection and if it included naked-eye visual inspection. I told him that a naked-eye visual inspection was not included, because any cracking may be too fine to be seen without assist. The assist includes such methods as: dye penetrant inspection, magnetic particle inspection, eddy current inspection, ultrasonic inspection, etc. These methods may require an individual certified to do the particular test method after the suitable cleaning of the surface being inspected.

DISTRIBUTION

J. A. DeMarco, CCA





U.S. CONSUMER PRODUCT SAFETY COMMISSION
WASHINGTON, DC 20207

Grover C. Watkins
"Swinger"
Chair/Seat Chain Eyebolts
Safety Bulletin

The USCPSC is aware of an amusement ride incident involving a Grover C. Watkins 'Swinger' amusement ride incident that occurred on July 21, 2000 in the State of Illinois. News articles said that a 12-year-old boy was injured as a result of falling from the 'Swinger'.

State of Illinois Amusement Ride Safety Inspectors examined the ride and determined that one of the nuts for the incident seat's four eyebolts had unscrewed. The seat chains were attached to these eyebolts. One of these nuts completely separated from its eyebolt, allowing the eyebolt and chain to separate from the chair. Illinois inspectors found that only the two back and the left front chains held the seat and this resulted in the victim falling from the chair.

Illinois Inspectors recommend that:

- (1) it should be assured that the eyebolts and nuts are inspected daily and,
- (2) the eyebolt nuts are locked in some manner so that they do not inadvertently loosen.
(The owner of the incident 'Swinger' is now using locknuts for the eyebolts.)

Whatever locking device is selected it should be properly used and should not damage the Swinger's molded fiberglass seat. Proper locking device use may mean once-only use and replacement with new locking device for each reassembly and the prevention of the inadvertent loosening of the eyebolt's nut. The above recommendations should also include a rigorous daily inspection of the ride.

For further information contact:

Carl Kimble, Illinois Dept of Labor at (217) 782-9347;
J. DeMarco, US CPSC Office of Compliance at (301) 504-0608 x 1353 or
Thomas Caton, US CPSC Office of Engineering Sciences at (301) 504-0504 x 1305.

[August 2000]

a:\swingerrevised082000\jxd



Florida Department of Agriculture & Consumer Services
TERRY L. RHODES, Commissioner
Bureau of Fair Ride Inspections, Division of Standards

Bureau of Fair Rides Inspection
3125 Conner Blvd., Suite N
Tallahassee, FL 32399-1650
Phone: 850/488-9790
Fax: 850/488-9023

April 16, 2001

XXXXX

RE: Seat Belts Required to operate Grover Watkins "Swinger" ride in the State of Florida

Dear XXXX

This letter is being provided to all Owners of Grover Watkins "Swinger" rides which have been permitted in the State of Florida. The Bureau has researched the requirement for seat belts on this ride. A number of other states, including: Pennsylvania, Ohio, Maryland, Virginia, Louisiana, Delaware, Missouri, and Texas, require seat belts. The Bureau ordinarily defers to the manufacturer's requirements, but in this case the manufacturer is no longer in business. The information which we have found indicates that the ride was originally made with a seat belt on each seat, so the State of Florida will require them in the future.

Sixty days after the date of this Memorandum, beginning June 16, 2001, you may not operate a Grover Watkins "Swinger" ride in the state of Florida without installing an "automotive type" seat belt on each seat. The seat belt is in addition to the crotch strap and safety chain already used on the ride and both must be fastened for the ride to operate.

M&M Amusements, Post Office Box 218, Padukah, KY, 42002, Phone: (270) 442-1666, rebuilds the Grover Watkins "Swinger" rides and is installing seat belts on their rebuilt rides. This company can supply the automotive type belts given some lead time. You may purchase these belts from any source. M&M is identified only because we are aware of them and they are referenced simply for your information.

Please contact the Bureau and speak with me or Mike Rinehart at the above number if you need any further information on this matter or if you have any questions. Thank you for your anticipated cooperation.

TERRY L. RHODES
Commissioner of Agriculture

By Isadore Rommes
Chief, Bureau of Fair Ride Inspections

Sent by Certified Mail # _____
and regular US Mail.

Mike Triplett

From: Richard Osworth <rosworth@dca.state.nj.us>
To: Michael Triplett <mtriplett@dca.state.nj.us>
Sent: Tuesday, April 17, 2001 11:55 AM
Attach: 0102GrvWatkinsBelts.doc
Subject: FW: Grover Watkins "Swinger"

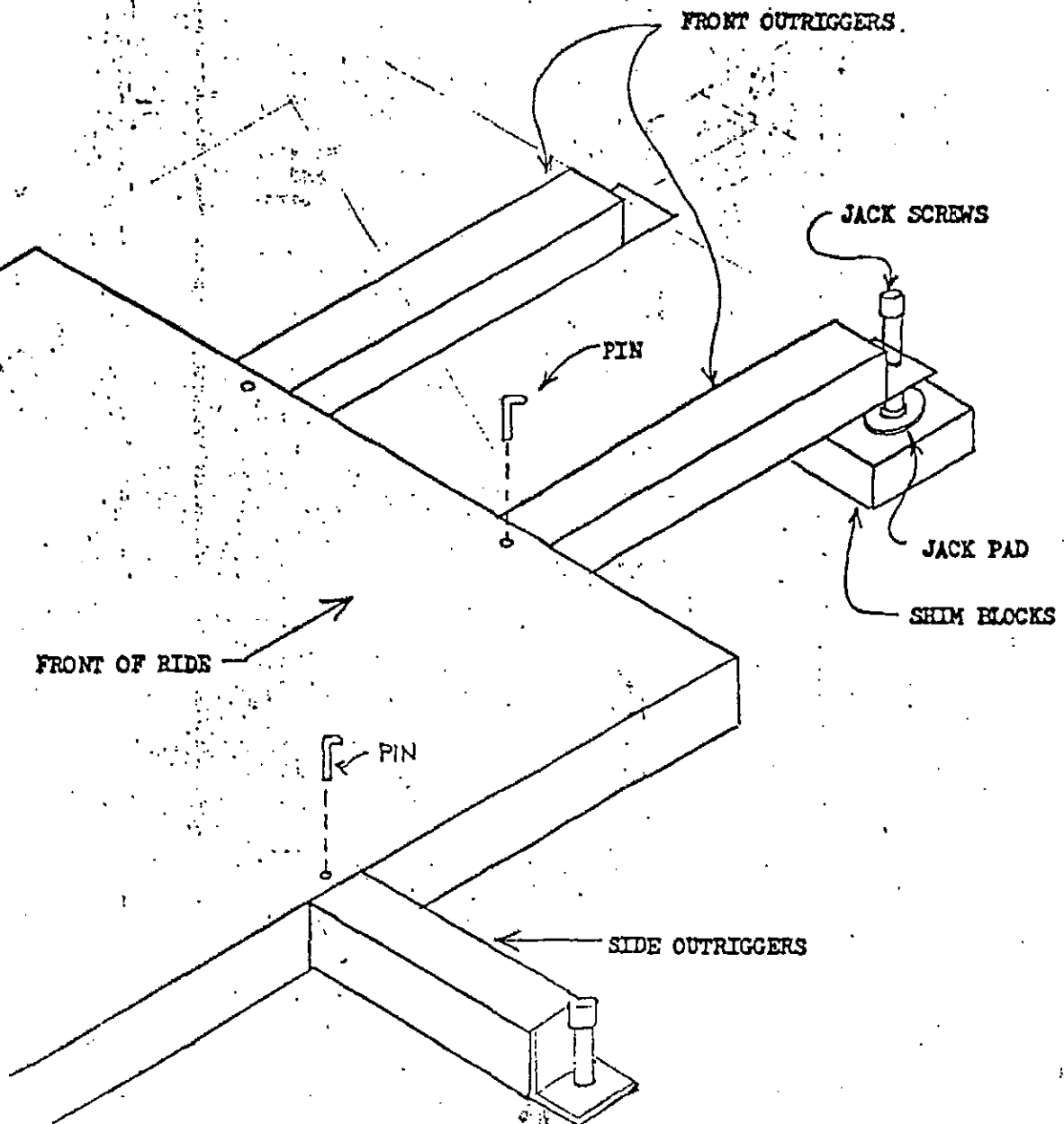
-----Original Message-----

From: Michael W Rinehart [mailto:rineham@doacs.state.fl.us]
Sent: Monday, April 16, 2001 10:36 AM
To: Isadore Rommes; Carl Dills
Subject: Grover Watkins "Swinger"

Effective sixty days from today, beginning June 16, 2001, owners/operators of Grover Waktins "Swinger" rides in Florida will be required to have "automotive type" seat belts in addition to the previously required safety chain and crotch strap/chain already being used on the ride. Both must be fastened for the ride to operate. Attached find Florida bulletin 01-02 issued today. (If you are unable to open, or download it the paragraph above covers it.)

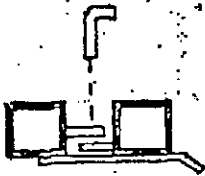
Mike Rinehart
Operations & Management Consultant II/ Investigator
Florida Bureau of Fair Rides Inspection

Extend outriggers directly behind the tractor, then disconnect the tractor. Extended outriggers shown below. After the front outriggers have been extended, set the remaining four outriggers in the same manner. Level the ride by adjusting the jack screws on the ends of the outriggers, Note: when leveling the ride, the lower section of the tower should be checked for plumbness.



The sweeps should be folded into position as follows.

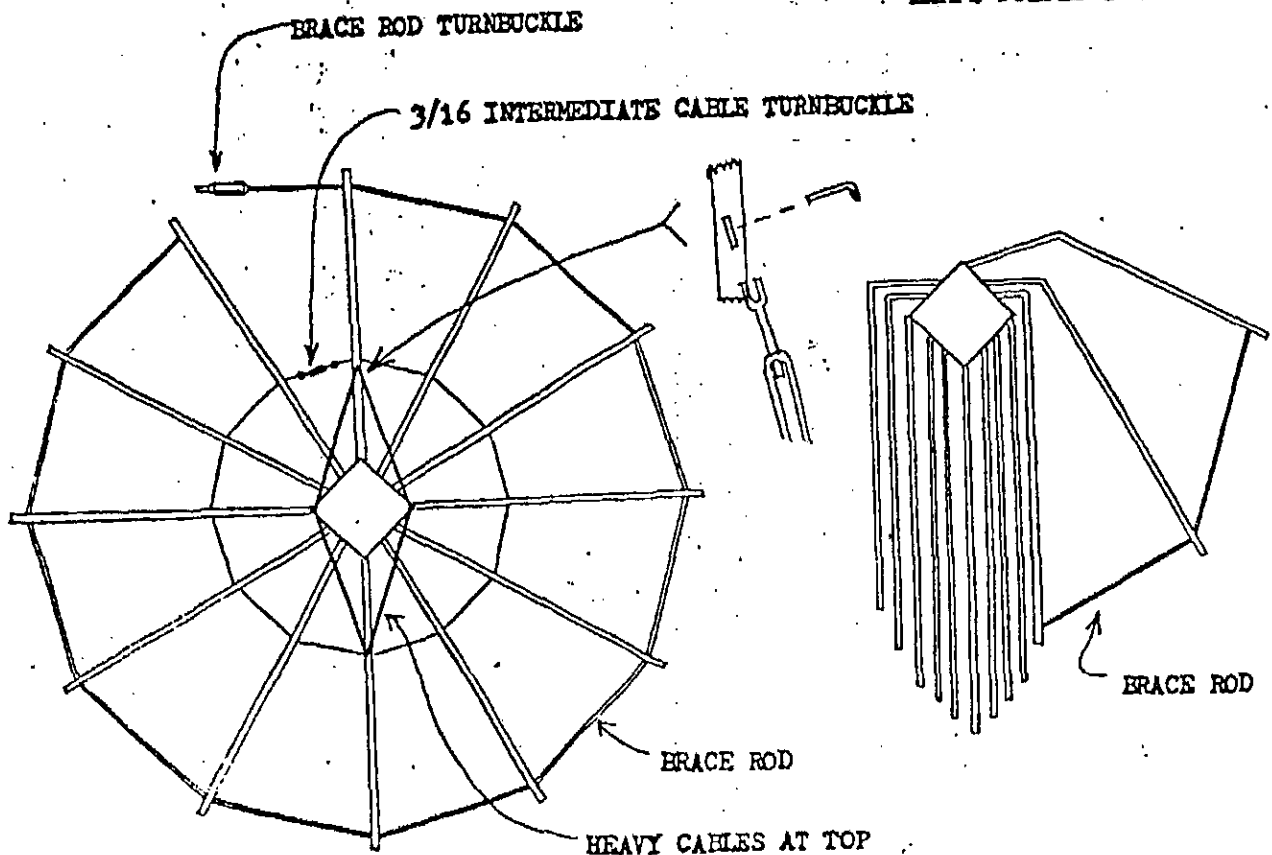
- A. Start with the outermost sweep first and disconnect the sweeps from one another as you work by removing the pin connecting them together.
- B. Fold the four foot lamps on the end upward and out; do this as you work also. See drawing below.
- C. Fold the first sweep out and connect the brace rod attached to the end of the sweep to the end of the next sweep. Use the pin you removed earlier. See drawing below.
- D. As you fold out the first few sweeps on each side, be sure to watch the lamps connected to the end of the sweep near the hub.
- E. Proceed thusly until the circle is completed.
- F. Connect the loose ends of the $3/16$ intermediate cable attached to the bottom chord of the sweeps at their midpoint. Take up the slack by adjusting the turnbuckle at the cable ends.
- G. Connect the last brace rod in the same manner as you did the $3/16$ cable, using the turnbuckle.
- H. On the top of the ride, near the center, four heavy cables are attached on one end to the sweep and on the other end to the hub. Two of these cables are connected and remain connected and the other two are loose. Attach these loose cables as shown and adjust their turnbuckles.



SWEEPS CONNECTED TOGETHER



LAMPS FOLDED OUT



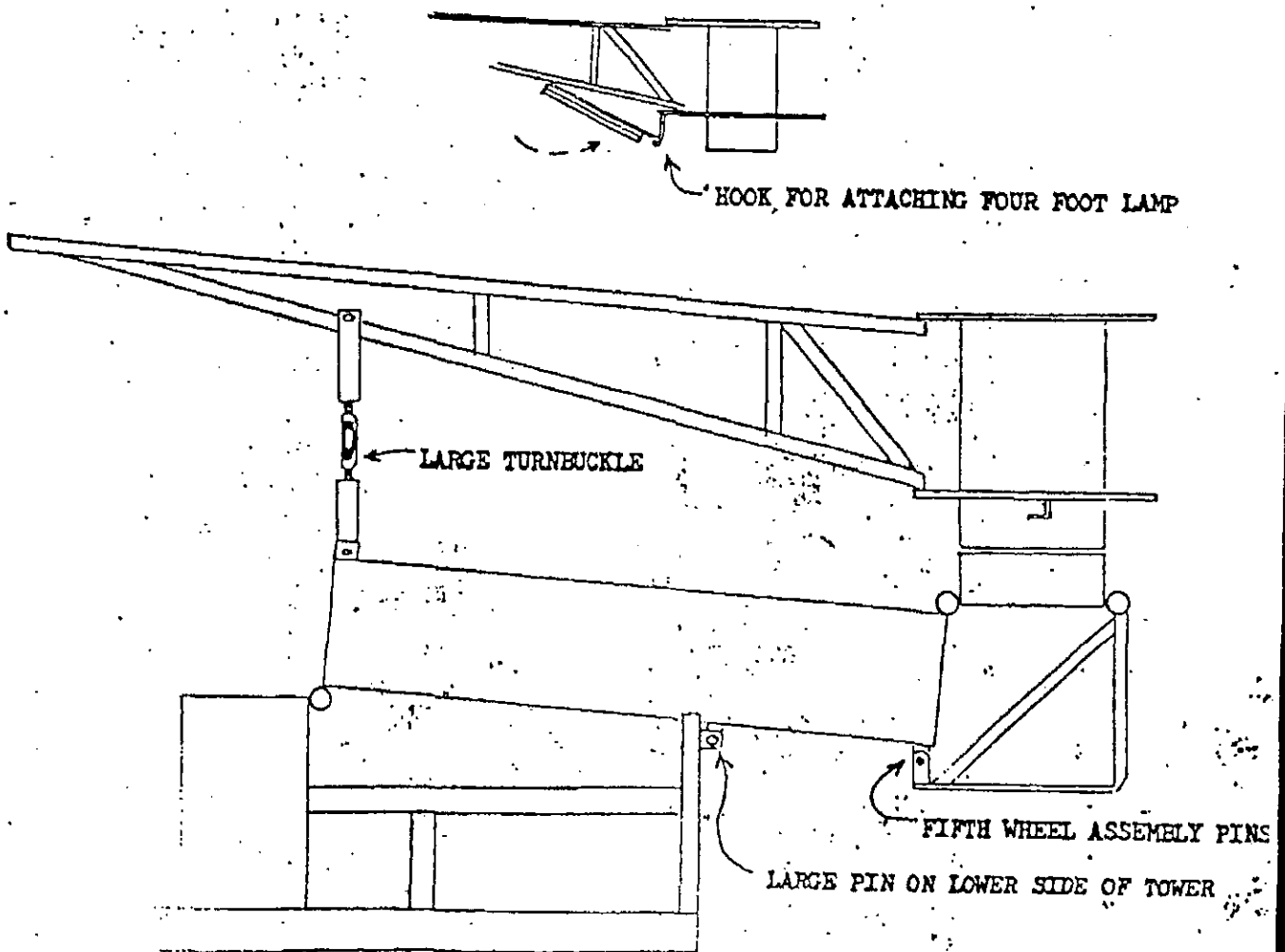
The fifth wheel assembly is held in place by two large pins. These two pins should be removed and allow the assembly to swing free. See below.

Remove the large pin located on the lower side of the tower mid section. See drawing below.

Located on the ends of the sweeps near the hub are four foot lamp fixtures. Some of these will have to be folded into place. Hooks on the lower side of the hub are provided for this. See drawing below.

Remove the large turnbuckle connected to the sweep and store under the trailer. Turnbuckle shown below.

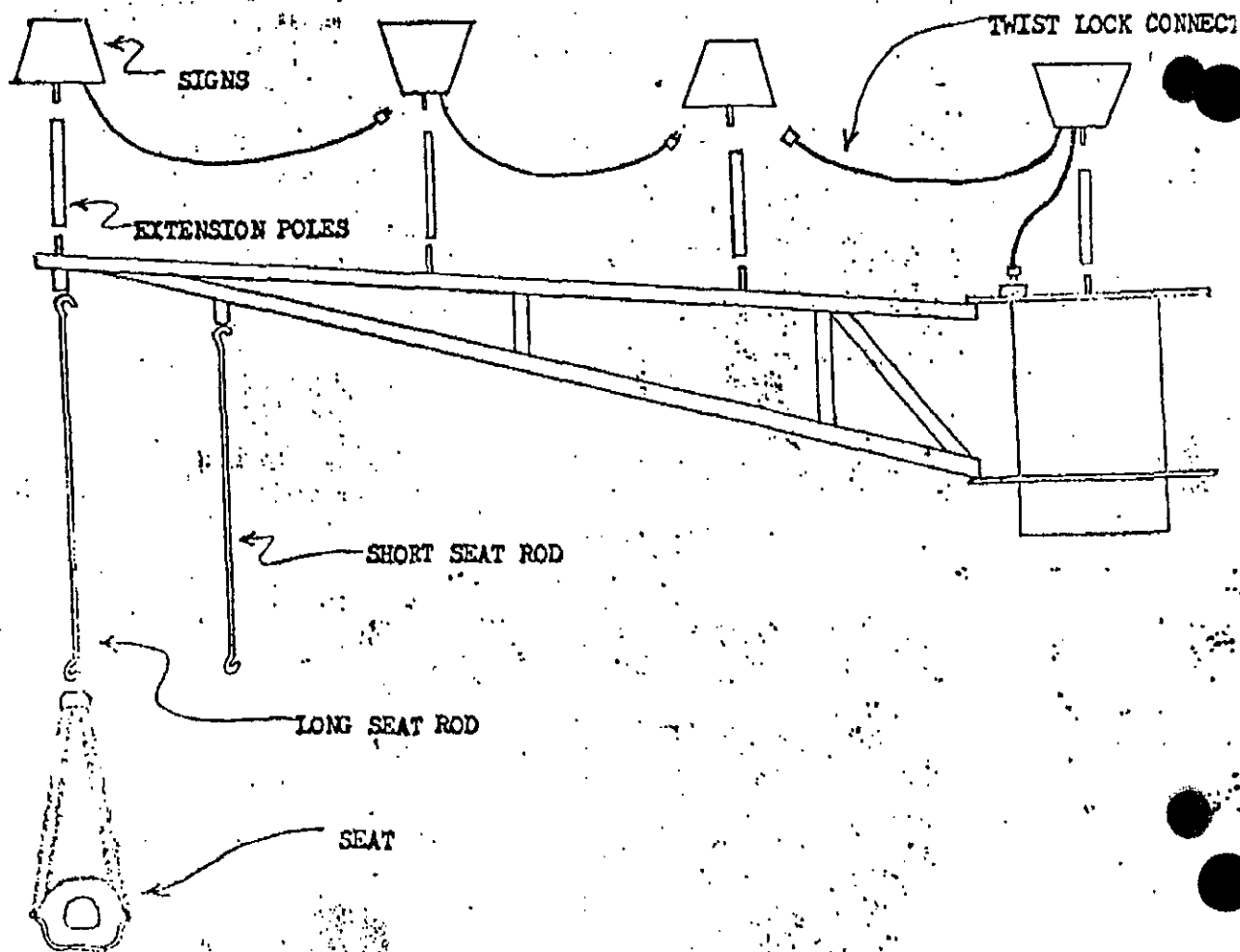
TO ALLOW THE HUB TO ROTATE, PUSH THE LEVER ON THE RIDE CONTROL VALVE DOWN.



Add the seven lettered signs to the top of the ride next. These signs have extension poles and the poles should be the longest toward the outside of the ride and progressively be shorter as you work toward the center. Also the cords on the signs are made in such a way that the signs can not be out of place and still work. The middle sign plugs into the top of the hub and the other signs have cords running to other signs. See drawing below.

Hang the seat rods next. These are of two lengths and may be of two colors. If more than one color, use the same color rod on a sweep of its color. The longer rods should hang on the end of the sweep while the shorter one hangs on the inside circle. These should be hooked over the pins attached to the sweep. See drawing below.

Hang the seats so that they face the direction of rotation which is rotating from left to right as you stand on the outside of the ride. Hang the seats by color using two seats of one color side by side and on the opposite (directly opposite) side use the other two seats of the same color. Hang all 24 seats in this manner. See drawing below.

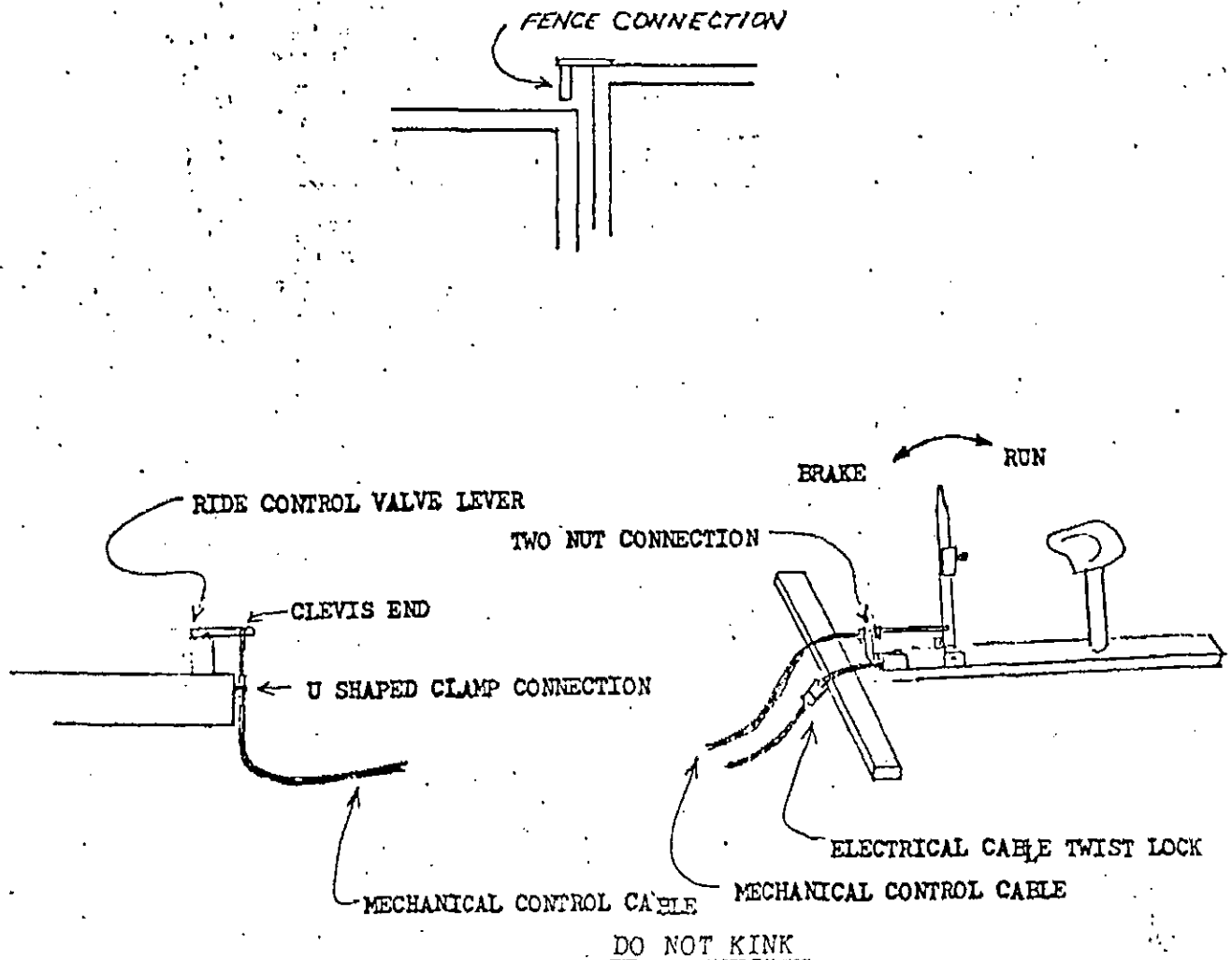


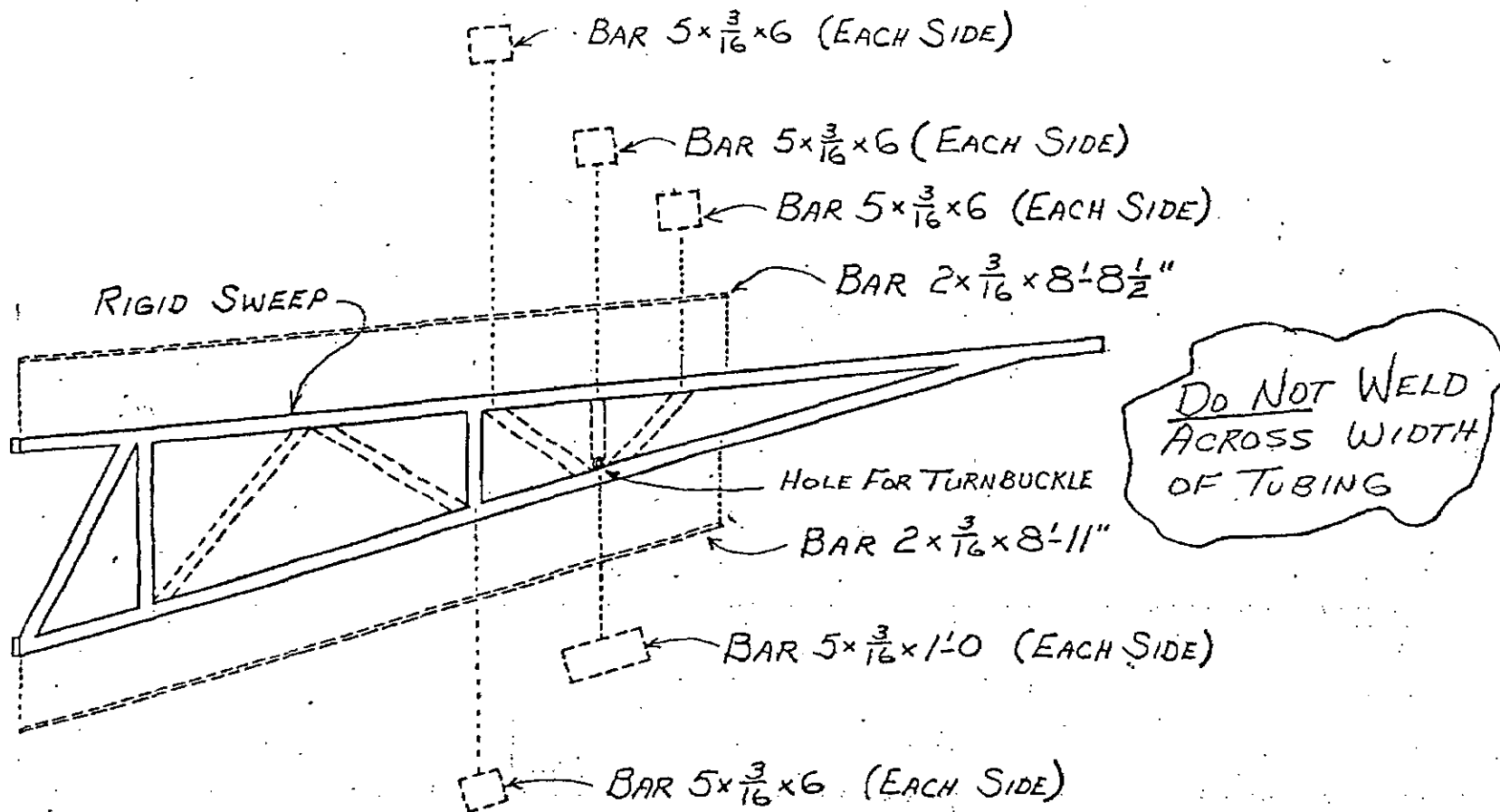
Set up fence as shown below.

Assemble the operators station. This will form a tee shape. Two short sections of fence go with the station as shown.

Control the mechanical control cable as shown. The end near the station will use two nuts on the cable to secure it to the station. The end near the back of the ride will use a U shaped clamp to secure it to the trailer. Both ends of the cable have a clevis connection for hooking either to the control stick or the ride control valve lever. Also connect the electrical control cable. This is attached to the back of the trailer and has a twist-lock connection on the other end. This will connect with another twist-lock at the operators station.

NOTEY DO NOT KINK THE CONTROL CABLE. THIS WILL DAMAGE THE CABLE BEYOND REPAIR.





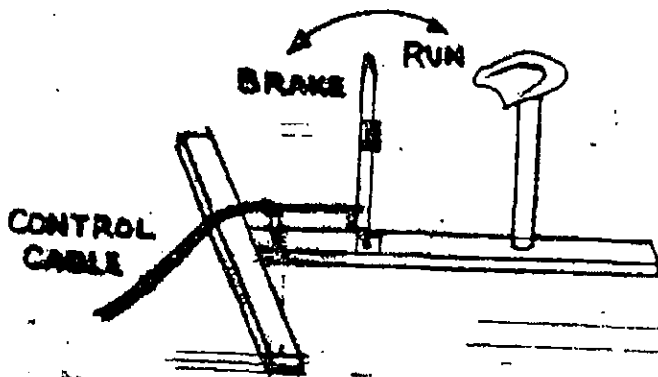
THE ORIGINAL NUMBER ONE SWEEP (SWEEP WITH TIE DOWN ATTACHMENT) IS SHOWN IN BLACK HEAVY LINES. PIECES ADDED TO SWEEP FOR REINFORCEMENT ARE SHOWN IN DOTTED LINES. PIECES ADDED BUT NOT LABELED ARE TUBE $2 \times 2 \times \frac{1}{8}$.

CONSTRUCTION DRAWINGS MAY BE OBTAINED FROM: GROVER C. WATKINS, INC.

P.O. Box 218

PADUCAH, KENTUCKY 01

11. Connect control cables to the hydraulic valve lever and to the operator's platform directly at the rear of the trailer. Also connect electrical cord to electrical outlet.



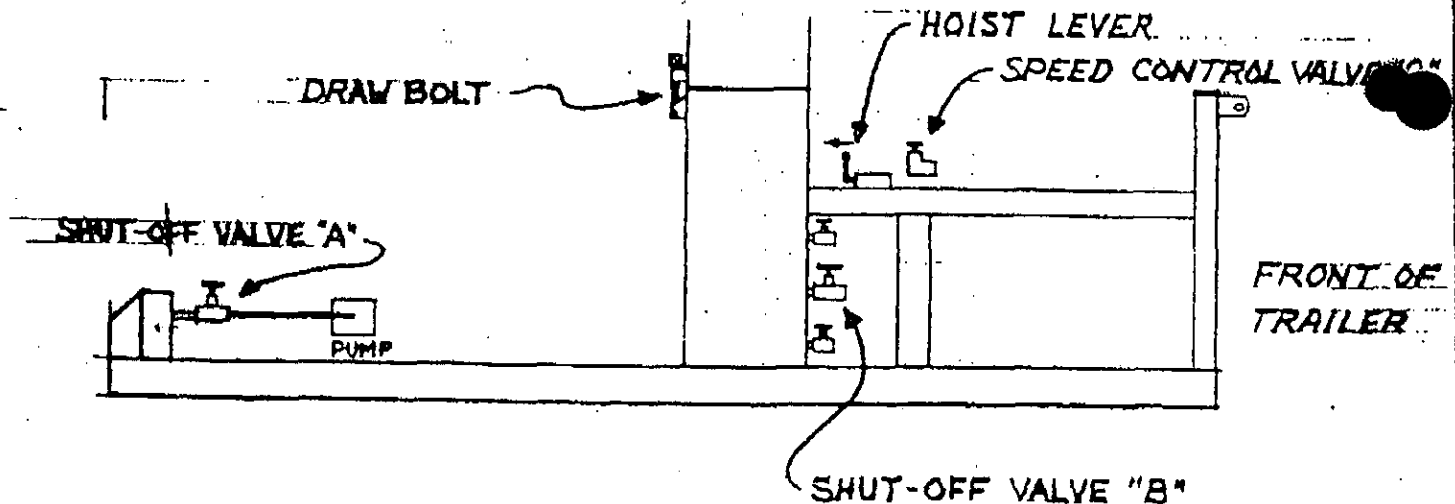
PULL CONTROL STICK BACK TO
RUN & FORWARD TO BRAKE

9. Remove all racks and working platforms. Before starting motor, be certain that shut-off valve A is tightly closed and shut-off valve B near the hoist lever is wide open. Start motor.

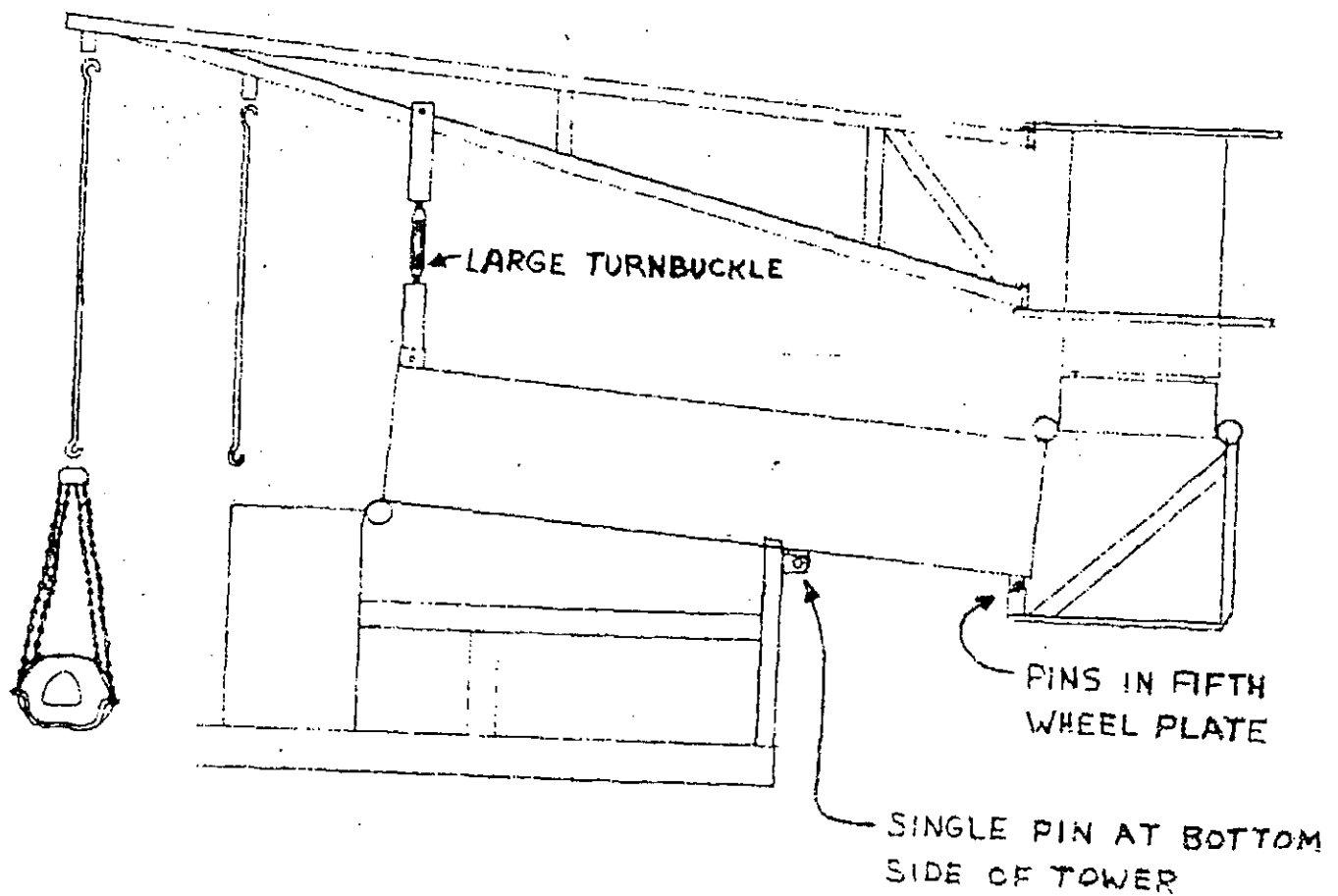
CAUTION: AS THE TOWER IS ERECTED, THE SPEED WILL INCREASE. TO REDUCE SPEED, LOOSEN (OR TURN) COUNTER CLOCKWISE THE SPEED CONTROL VALVE KNOB. BE CAREFUL THAT HYDRAULIC HOSES ARE NOT FOULED AT EITHER END OF THE TOWER HINGE.

As the tower reaches complete erection, it will tend to go over center and to move too fast. At this point you must control the last of the erection by the hoist lever. Once the tower is completely vertical, assemble and tighten draw bolt.

10. SHUT OFF MOTOR. Close the shut-off valve B at the hoist completely and tighten speed control valve C completely.

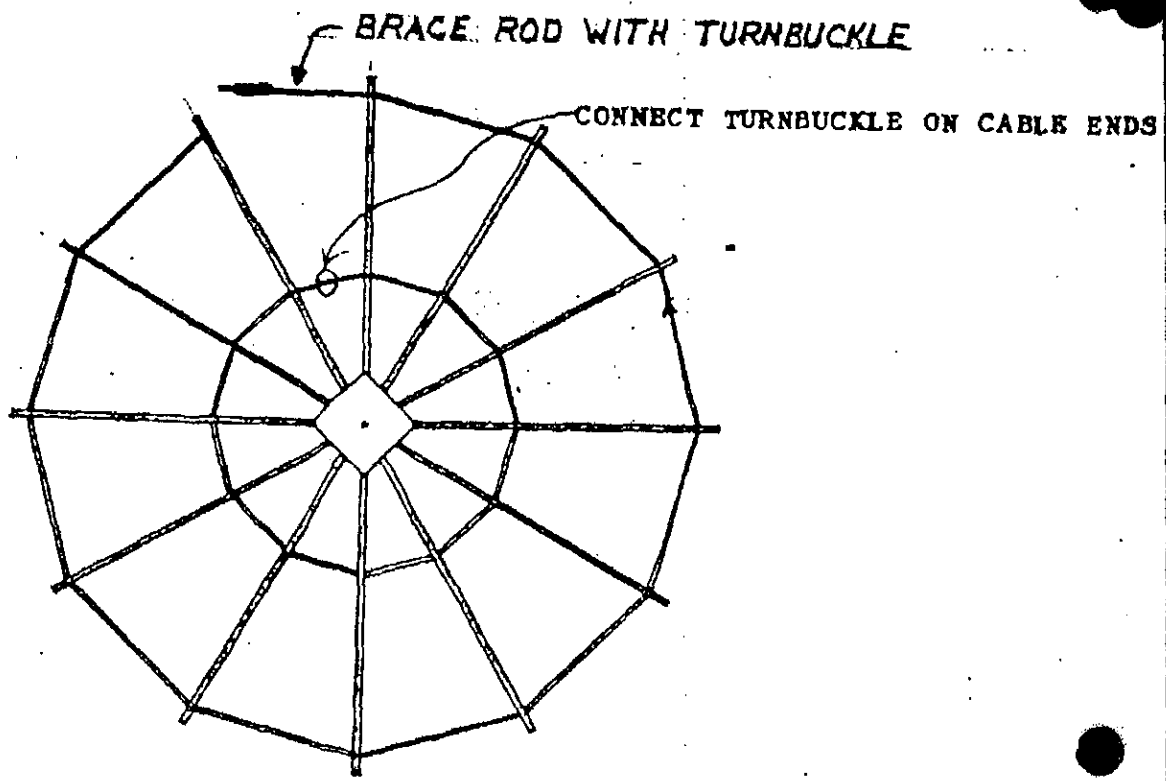
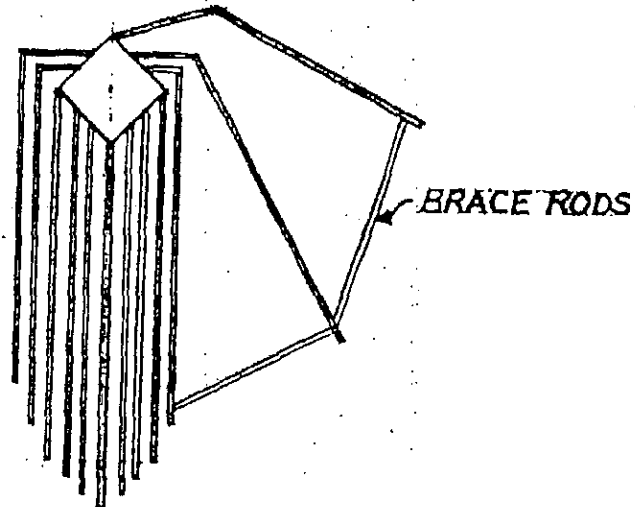


5. Loosen and remove large turnbuckle which connects center spoke to the tower.
6. Remove side rod braces which connect center hub to tower on each side.
7. Hang seat rods according to color, put long ones on outside and short ones inside. Hang seats so that colors are opposite the other two seats of the same color on the far side of the ride.
8. Remove pins and allow fifth wheel plate to swing down and hang free at front of tower. Remove single pin from bottom side of tower.



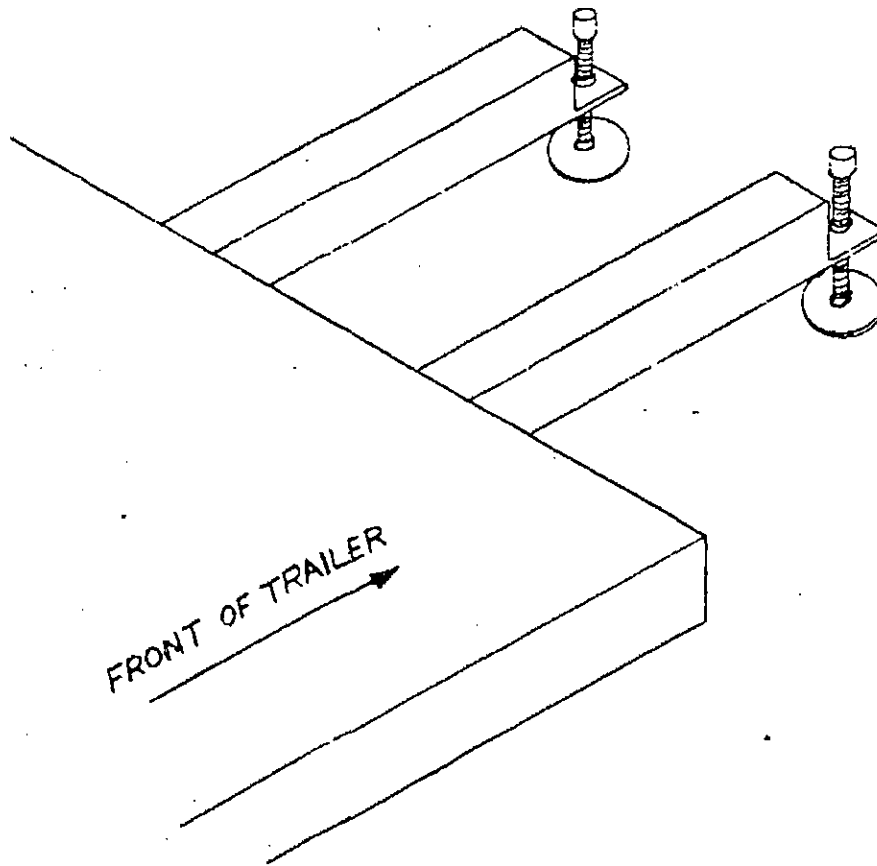
Open the outside spoke and connect the outer brace rod to the next sweep. Proceed thusly until the circle is complete.

~~XX~~
~~XX~~
~~XX~~
Connect the last outer tie rod, after connecting turnbuckle on cable ends.



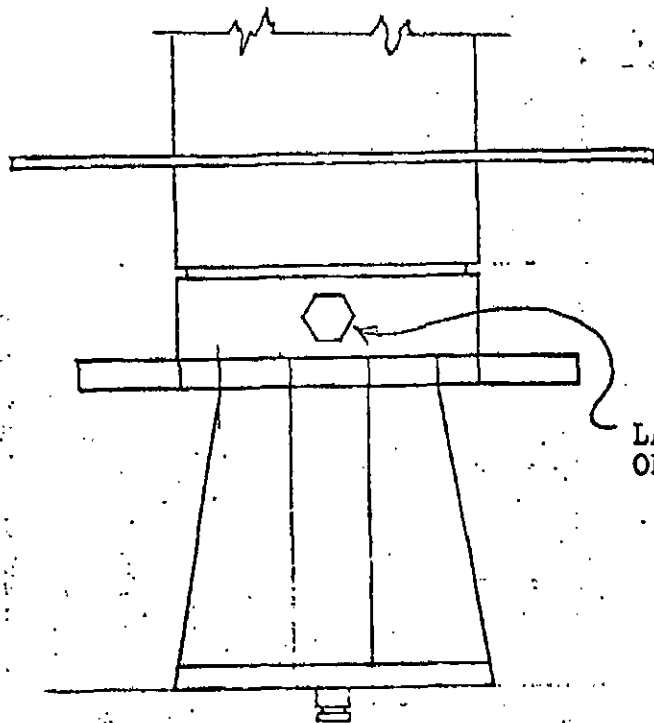
ERECTION INSTRUCTIONS

1. Extend outriggers directly behind tractor, then disconnect tractor. Set the other four outriggers and level the ride by means of screwjacks.
2. Insert top light fixtures into sockets on ends of sweeps. Erect top sign using square poles mounted on sweep, use longest poles at end of sweep and the shorter ones at center of ride.
3. Mount signs on top of poles on sweep.



ERECTION INSTRUCTIONS

In the front of the hub, is a large bolt which keeps the hub from turning while traveling. (Shown below), THIS SHOULD BE REMOVED BEFORE DISCONNECTING TRACTOR.



LARGE BOLT AT FRONT OF HUB