



WMI INDUSTRIES, LTD.

August 12, 1993

RE: Gravitron Bulletin Package.

Some Gravitron owners have indicated that they have not received all of the bulletins issued. Enclosed are some of the bulletins issued that our records indicate that there has been poor response from. Also, enclosed are bulletins outlining inspections of areas that we have found to be problems on one or more rides.

New bulletins enclosed:

Console post inspection

Main Turntable frame and Bearing trailer mounting.

Door camera or window cutout

Sweep end holes.

Door opener maintainance -

Leveling turntable wings.

Top Operation

Bulletins with poor response.

Door Catch

Sweep pads

If you no longer have the Gravitron please let us know so that we can change our records.

If you have any questions about the bulletins or need to order parts for the bulletins please call us at 1-800-634-6097.



WMI INDUSTRIES, LTD.

RE:GRAVITRON CONSOLE CENTER POST INSPECTION

Compliance: Mandatory

Frequency: Annual

Due to reports of cracked console upright posts the following inspection is required.

See enclosed drawing for areas to inspect.

Inspection procedure:

1. Remove the operators seat from the console.
2. Lift out the console seat platform that the operators seat was pinned to.

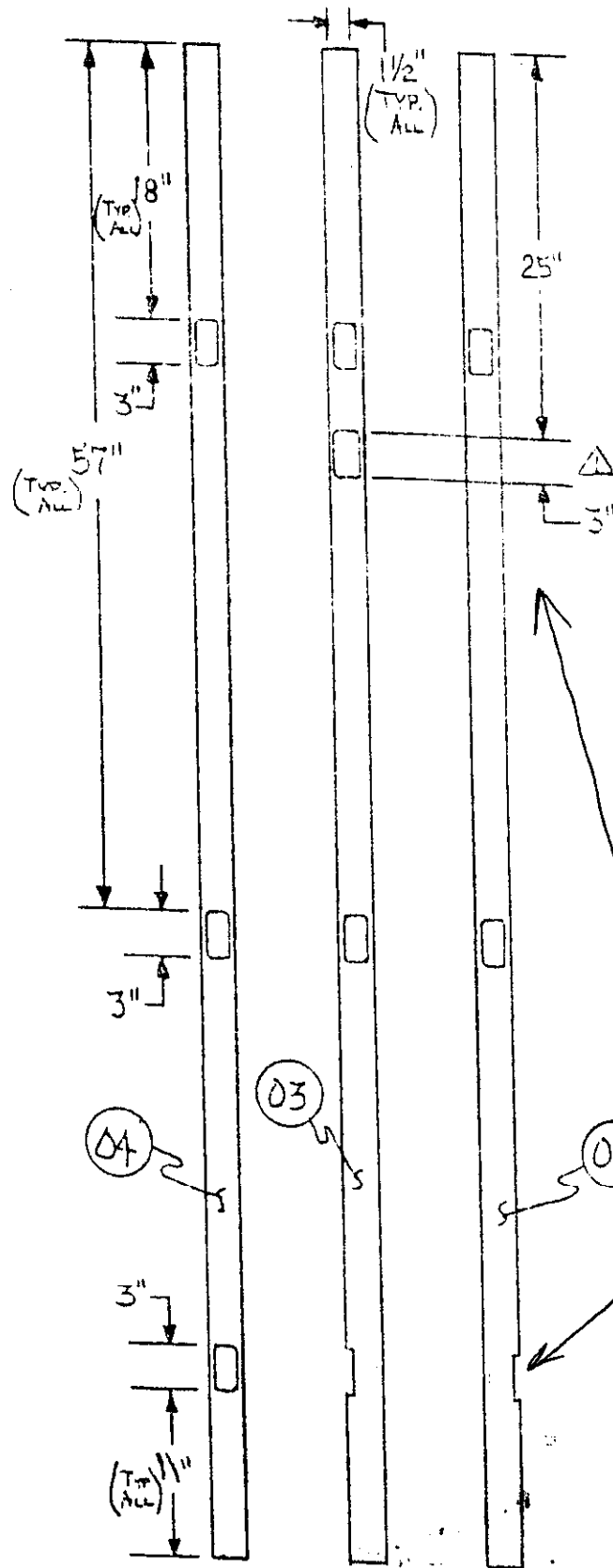
DANGER!

HIGH VOLTAGE IS IN THE AREA UNDER THE FLOOR OF THE CONSOLE. TURN OFF THE MAIN ELECTRICAL POWER AND LOCK OUT THE DISCONNECT SO THAT THE POWER CAN NOT BE TURNED ON WHILE INSPECTING THE CONSOLE. SERIOUS INJURY OR DEATH CAN RESULT.

3. Inspect the area where the console posts are welded to the floor of the turntable.
4. Inspect the area where the console posts are welded to the console. Where the 1" framework is welded to the posts about 18" above the floor of the turntable.
5. Remove the white plastic cups and lights that are next to where the upright posts go through the fiberglass console. This requires removing four of the cups on both the upper and lower fiberglass consoles.
6. Inspect the posts looking into the hole where the light cup was screwed in. Carefully inspect the areas where holes are cut in the upright posts.
7. If no cracks are found reinstall the plastic cups and lights.
8. Inspect the posts where they extend through the upper console fiberglass in the area above the shelf. Carefully inspect the areas where holes are cut in the upright posts.
9. If cracks are found contact us for proper repair procedure.
10. Reinstall console seat platform and seat.

ATTACHMENT

A

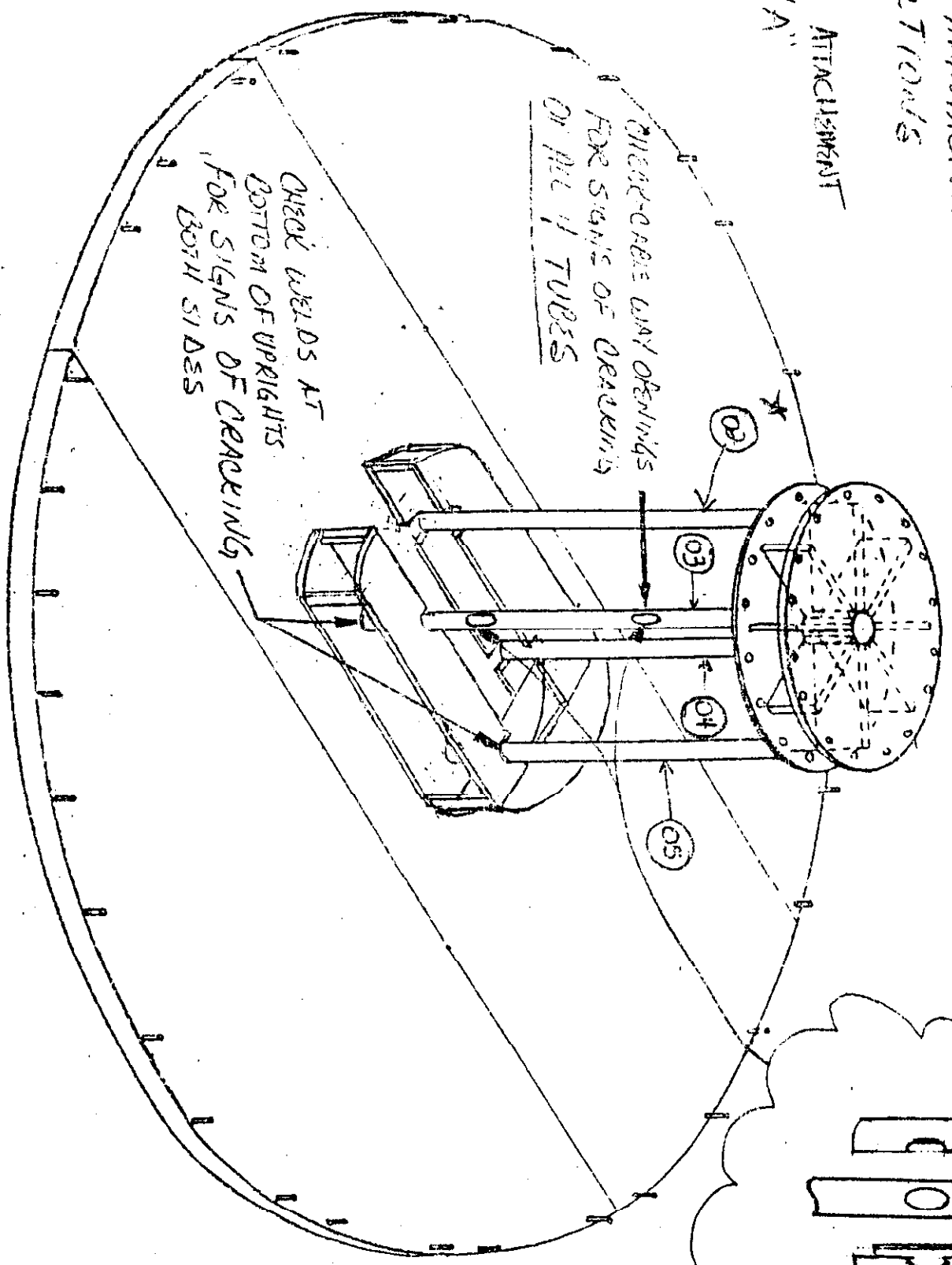


Inspect all cut outs for cracks

CUT OUT DETAILS - SUPPORT PIPES

PERFORM REPAIRS AT CONSTRUCTION
TUBES SHOW SIGNS OF WEARING.
INACT MANUFACTURER FOR REPAIR
INSTRUCTIONS

BOND ON ATTACHMENT
NEET "A"



ISOMETRIC VIEW OF TURNTABLE
& CONTROL BOOTH



WMI INDUSTRIES, LTD.

Date: August 6, 1993

RE: Inspection of Gravitron turntable frame and trailer main bearing box.

Compliance: Mandatory

INSPECTION AREA ONE: MAIN TURNTABLE.

Recently one used Gravitron has shown cracks on the main turntable frame. The enclosed drawing shows the areas to inspect for cracks. If cracks are found contact us for the proper procedure of repair and so that we can use this information to evaluate how common this problem is.

Access to the area to be inspected is under the operators seat.

1. Turn off the main power to ride at the fuse box and pull the fuses or padlock the main disconnect handle so the power can not be turned on.
2. Remove the operators seat.
3. Lift out the center section of the console.

DANGER!

THE MAIN POWER TO THE INSIDE OF THE RIDE IS UNDER THE OPERATORS SEAT. FAILURE TO TURN OFF THE POWER WHILE IN THIS AREA WILL CAUSE SERIOUS INJURY OR DEATH.

INSPECTION AREA TWO: TRAILER MAIN BEARING BOX.

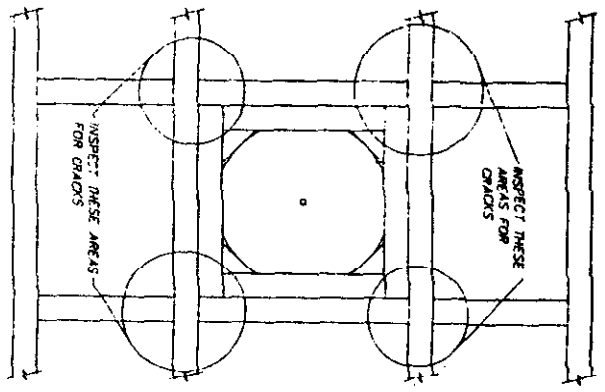
Field reports have indicated that cracks have been found in the area where the main bearing box welds to the trailer frame. Inspect these welds and the bearing box for cracks. If cracks are found contact us for the proper repair procedure.

Access to the area to be inspected is under the ride at the center of the trailer.

See drawing for areas to inspect.

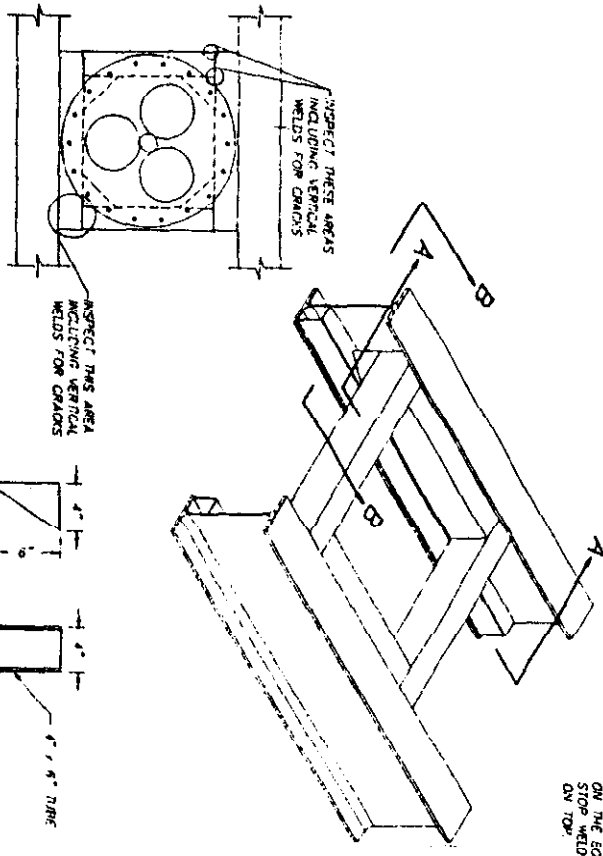
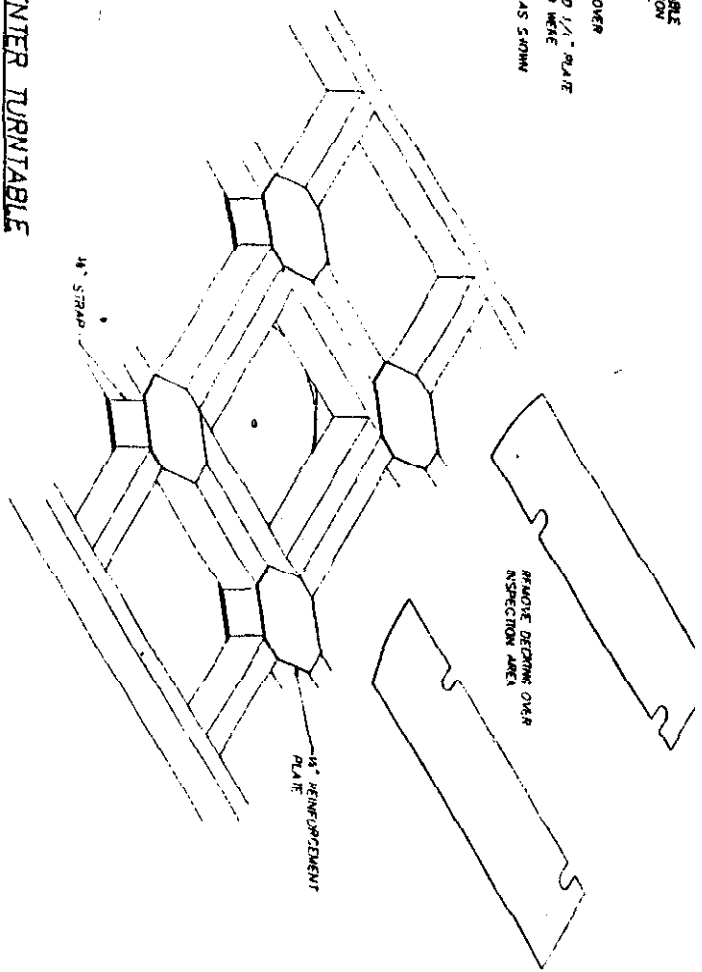
DANGER!

**TURN OFF THE MAIN POWER TO THE RIDE AND PADLOCK THE MAIN DISCONNECT HANDLE SO THAT THE POWER CAN NOT BE TURNED ON WHILE UNDER THE RIDE.
OPERATION OF THE RIDE OR TURNING ON OF THE FAN WHILE UNDER THE RIDE WILL CAUSE SERIOUS INJURY OR DEATH.**



- INSPECTION DIRECTIONS FOR TURNABLE OF TURNABLE FOR CRACKS WMS**
1. INSPECT BOTTOM OF CENTER SECTION
 2. IN ANY INDICATION OF CRACKS
 3. GO INSIDE AND REMOVE DETRIMENT OVER INSPECTION AREA
 4. WELD 1/2" STRAP 1/4" FROM EDGE AS SHOWN

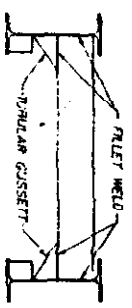
BEARING BOX ON CENTER TURNABLE



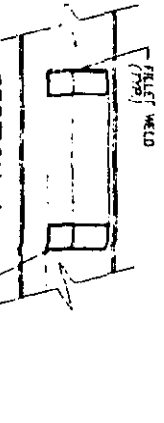
BEARING BOX ON TRAILER



TUBULAR GUSSET



SECTION B-B

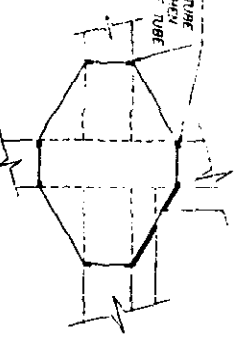


SECTION A-A

TOP VIEW REIN. PLATE

TOP PLATE SHOWN (BOTTOM VIEW FROM BOTTOM PLATE)

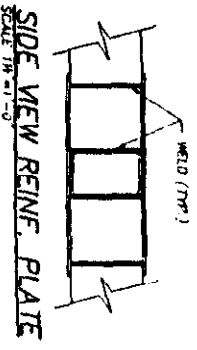
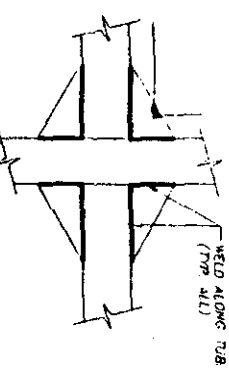
SCALE 1/4" = 1'-0"



BOTTOM VIEW REIN. PLATE

TOP PLATE SHOWN (TOP VIEW FROM BOTTOM PLATE)

SCALE 1/4" = 1'-0"



NOTE:
YOU CAN ONLY
BOX IN 3 SIDES

| | |
|--|--|
| <p>WISDOM INDUSTRIES Marino, CO 80741</p> | |
| <p>SCALE: 3/4" = 1'-0"</p> <p>DATE: 6-7-93</p> <p>INSPECTOR: JUN 0 0 2007</p> | <p>DRWING BY: [Signature]</p> <p>REVISION:</p> |
| <p>PROJECT: BEARING BOX INSPECTION</p> <p>CONTRACT: GRAVITON</p> | |
| <p>SECTION: INSPECTION</p> | |



WMI INDUSTRIES, LTD.

Date: August 6, 1993

RE: Gravitron Door Camera

Compliance: Mandatory

Several Customers have complained that inspectors want both a camera and a window installed or that the window is now mandatory.

On the new Gravitrons we are now cutting a window in the door panel on the Gravitron so that the operator can look out and see where the steps are located when the ride is stopped.

It is mandatory only that either the camera or the window is installed but it does not need both. Some operators prefer the camera.

Enclosed is the drawing and pattern for installing the window. If you chose not to repair the door camera then the window must be used.

Installation:

1. Cut out the full size pattern that is enclosed.
2. Position it on the inside of the door according to the drawing that is enclosed.
3. Mark around the pattern with a marker.
4. Cut out the opening to the line.

WARNING!

BE SURE TO CUT THE CORNERS OF THE CUTOUT ROUNDED AS IN THE PATTERN. THIS WILL HELP TO PREVENT CRACKS IN THE FIBERGLASS STARTING IN THE CORNERS.

5. Cover the inside of the hole with a clear or smoked plastic to prevent someone from putting their head or arm inside the ride.

DANGER!

FAILURE TO COVER THE HOLE COULD CAUSE SERIOUS INJURY TO ANYONE WHO PUTS THERE HAND OR HEAD THROUGH THE HOLE!

THIS DRAWING IS A TEMPLATE OF THE CUT-OUT AREA FOR THE PANEL WINDOW. CUT-OUT AROUND THE EDGE, AND TRACE AROUND THE OUTSIDE WITH A HEAVY BLACK MARKER TO MARK THE AREA TO BE REMOVED ON THE PANEL. THE WINDOW CAN BE MADE FROM A PIECE OF CLEAR PLEXIGLASS MEASURING 8 x 6 AND SHOULD BE ATTACHED ON THE INSIDE OF THE PANEL BY MEANS OF BOLTS, SCREWS, OR POP-RIVETS (FROM THE INSIDE - IN).

CONFIDENTIAL INFORMATION

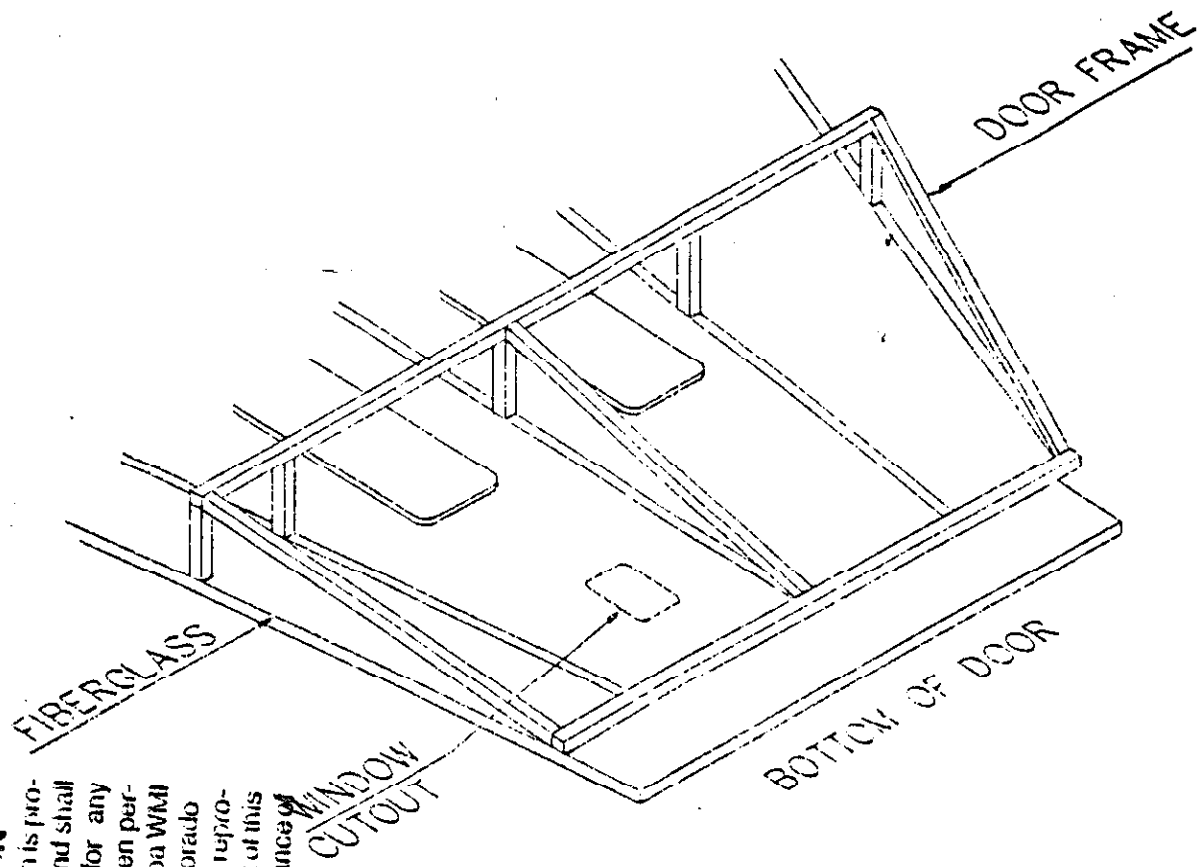
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JUN 24 1993

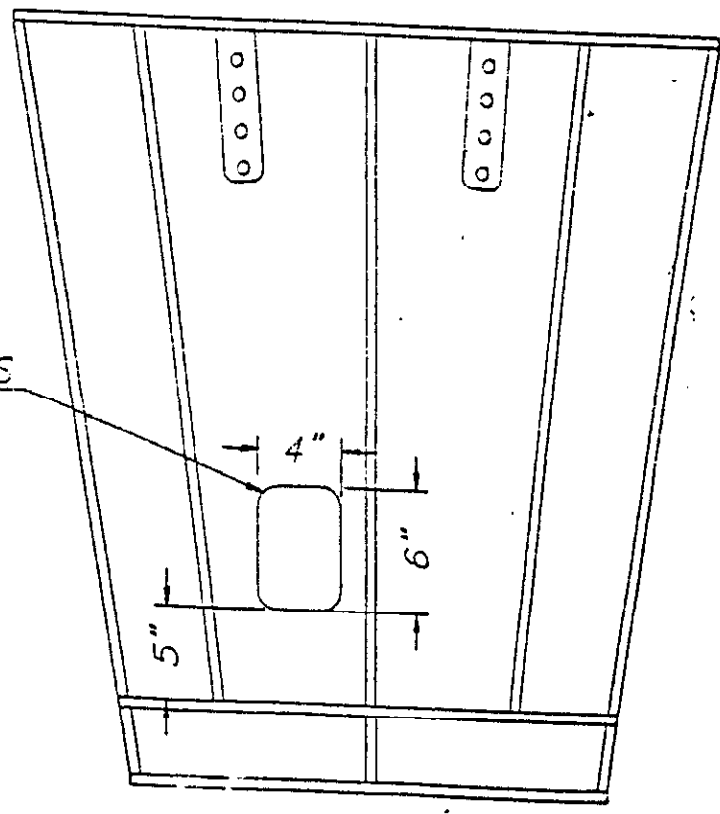
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JUN 24 1993



LARGE RADIUS
(1") TO
PREVENT
CRACKING





**WMI
INDUSTRIES, LTD.**

Date: August 6, 1993

RE: Gravitron Top Sweeps.

Compliance: Mandatory

Recent inspections of used Gravitrons have shown wear on the holes on the end of the sweeps where the panel top pins and wedges go through. Wear on these holes comes from not keeping the cable tight on the top of the ride.

WARNING!

DO NOT OVER TIGHTEN THE TOP SAFETY CABLE. THE EARS THAT THE TURN BUCKLES ARE ATTACHED TO CAN TEAR OUT OF THE TUBING.

Original measurement of the holes:

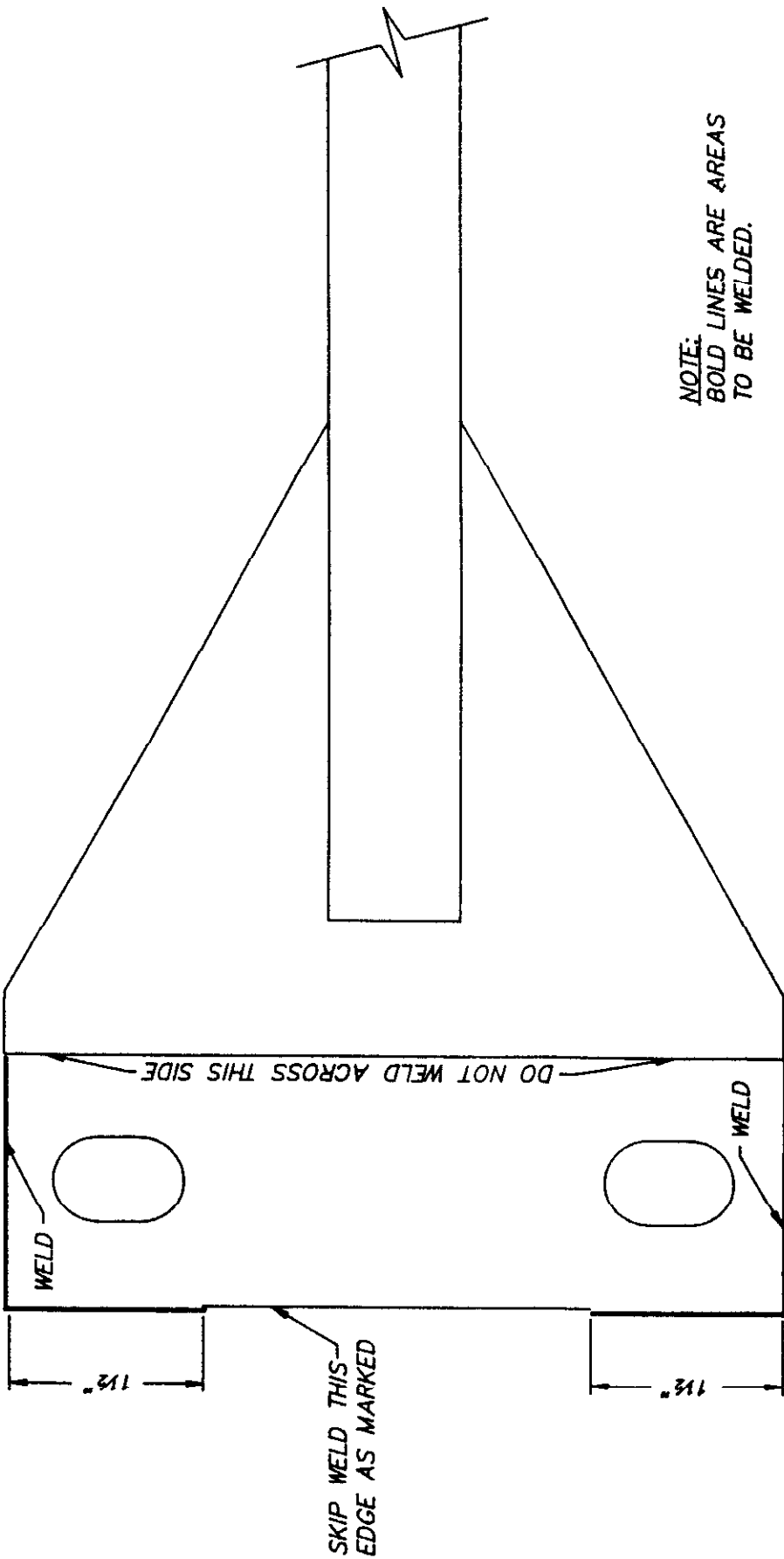
.675 inch (11/16") by 1.00 inch (1").

Maximum wear allowance for each hole:

.750 inch (3/4") by 1.125 inch (1-1/8").

If a hole is larger than this a doubler plate must be added to the end of the sweep. The enclosed drawing shows the procedure for installing this plate.

Weld only in the areas marked on the drawing.



NOTE:
BOLD LINES ARE AREAS
TO BE WELDED.



**WISDOM
INDUSTRIES**

Merino, CO 80741

| | | |
|---------------------------------------|----------------|---------------|
| SCALE: NTS | APPROVED BY: | DRAWN BY: MFK |
| DATE: 7-29-93 | | REVISED |
| DESCRIPTION | | |
| PANEL TRUSS - PIN PLATE REINFORCEMENT | | |
| EQUIPMENT: | DRAWING NUMBER | |
| GRAMTRON | | SAFETY |



WMI INDUSTRIES, LTD.

RE:Leveling procedure for the Gravitron turntable.

The platform level should be checked annually.

Procedure:

1. Set up ride and run two or three times.
2. Lower the two outriggers or remove the idler tires.
3. Measure up from one point on the ground near the end of the outrigger.
4. Measure to the middle of the wing about where the turnbuckles attach for transporting the ride.
5. Turn the ride one quarter turn and measure the center of the main part of the turntable.
6. Turn the ride another quarter turn and measure the center of the other wing.
7. Turn the ride another quarter turn and measure the other end of the turntable.
8. The measurements should be plus or minus 1/2" of the main turntable.
9. If the difference is greater than 3/4" you should shim the wing up that is low.

Shimming procedure:

1. Loosen all the wedges on the panels.
2. Release the pressure on the hydraulics by moving the control handle with the pump turned off.
3. Jack up on the end of the wing.
4. Slide in a 16 gauge by 2" wide by 20 foot long piece of steel between the wing and main part of the turntable.
5. Let off of the hydraulic jack and remeasure.
6. After you have determined the proper thickness of shim tack it to the main part of the turntable so that it will not fall out when the ride is running.

WARNING!

BE SURE TO TIGHTEN THE PINS AND WEDGES BEFORE OPERATING THE RIDE.



RE: OPERATION OF THE GRAVITRON WITH THE CANVAS TOP.

DANGER!

It has come to our attention that some operators have operated the Gravitron without the top on the ride. NEVER operate the Gravitron without the top on.

The top is a major safety factor on the ride. Operation of the ride with passengers could result in passengers coming out of the ride. This has never happened. Serious injury or death could result from this operating practice.

 **WMI
INDUSTRIES, LTD.**

RE:GRAVITRON DOOR OPENER.

Compliance: Mandatory

Due to reports of door openers on the Gravitron not being maintained it is mandatory that a door catch be installed on all Gravitrons. There are two types of catches that have been fabricated and installed on most Gravitrons.

The original type is a flip up finger that hangs from the sweep. As the door is raised past this finger it drops down under the door. An electric solenoid pulls the finger up when the door is lowered. This type of door catch is acceptable as long as the operator raises the door past this catch each time the door is opened. The operator must be sure that there is no one standing under the door when he lowers it.

The second type of door catch is a telescoping rod and pipe arrangement. This is welded on the side of the door frame and operates with a solenoid in the same manor as the first door catch does except that it will catch the door at any position on the way up. This is the preferred type of catch.

WARNING!

INSTALLATION OF THE DOOR CATCH DOES NOT RELIEVE THE REQUIREMENT OF MAINTAINING THE DOOR OPENER AND CABLES.

Installation:

1. Check the operation of the door opener. The door must stop immediately when the close button is released. Pull down on the door to see if it slips down. If it does slip down, adjust the clutch and brake until it will stay in position when the button is released.
2. Weld the brackets to the side of the door frame as shown on the enclosed drawing.
3. Connect the wires to the door opener as shown on the same drawing.
4. Test the operation.
The solenoid will operate only while the door is being lowered.
5. If the door catch will not release, check the adjustment on the clutch and brake on the door opener. If the door slips down or coasts down, the door catch will not release. Adjust the clutch and brake to keep this from happening.



WMI INDUSTRIES, LTD.

RE:GRAVITRON SWEEP PADS

Compliance: Mandatory

It is mandatory that sweep end pads be installed on all Gravitrons each time the Gravitron is operated with passengers.

Installation:

1. Mark the location of the hole on the sweep gusset. Use the enclosed drawing to locate the hole.

2. Hold the head pad so that the hole lines up with the mark. If the pad will not fit in that position move the pad and remark the hole to where it will pin in place.

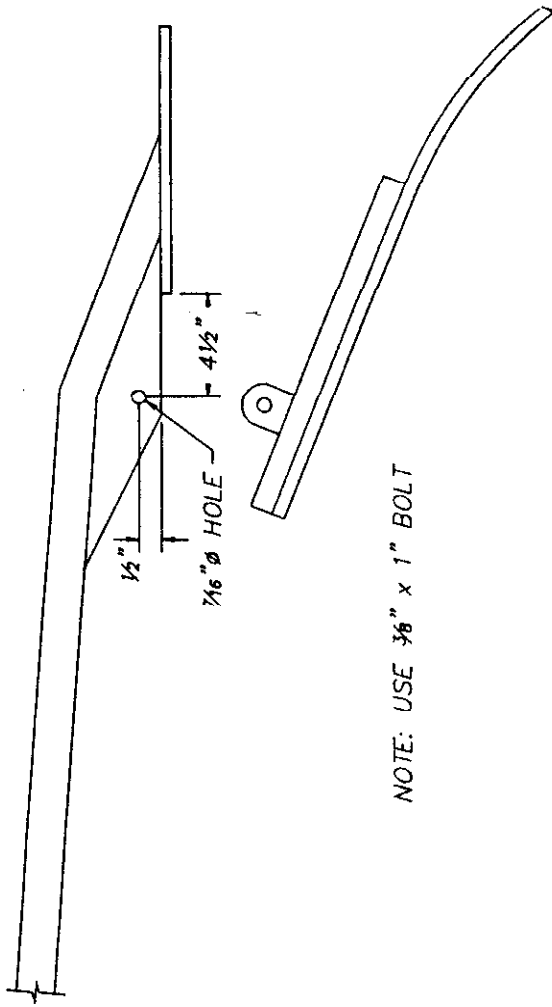
Note: The pads on the four main sweeps may need to be moved to pin in place.

3. The sweep pad is to cover the wedges and edge of the fiberglass.

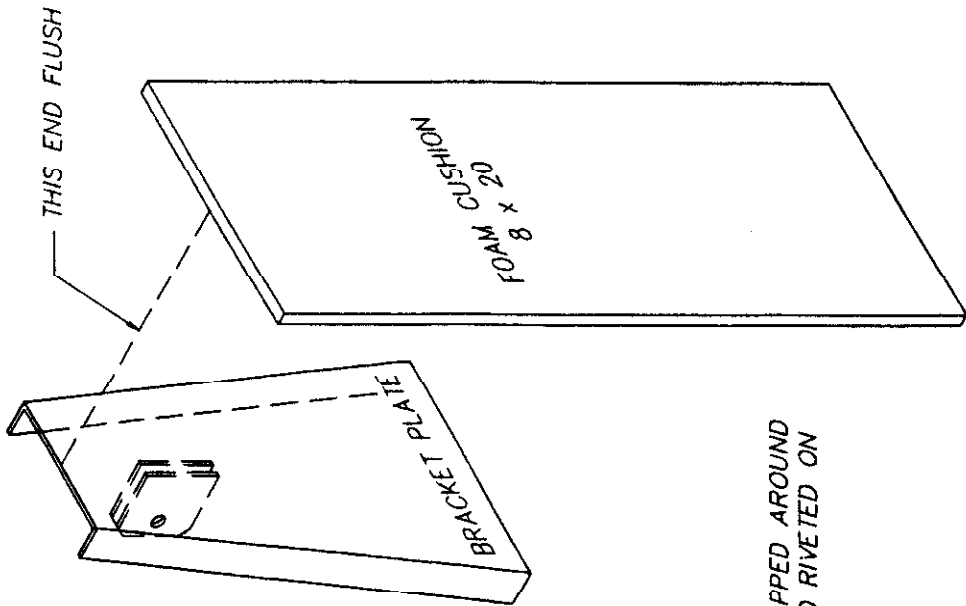
4. Drill one 7/16" diameter hole in the marked location.

5. Install the head pad with a 3/8" bolt and nut, or pin in place.


Note: It is easier to drill the holes and install the sweep pad before the top is installed.



NOTE: USE 3/8" x 1" BOLT



NOTE: FOAM IS WRAPPED AROUND BRACKET AND RIVETED ON SIDES.

| | | |
|--|------------------|---------------------------|
|  WMI INDUSTRIES Merino, CO 80741 | | APPROVED BY: L.M.B. |
| SCALE: 3"=1'-0" | DRAWN BY: L.M.B. | |
| DATE: 7-10-90 | REVISED | |
| DESCRIPTION: SWEEP CUSHION BRACKET | | |
| EQUIPMENT: GRAVITRON | | DRAWING NUMBER: HB6 H 635 |