WISDOM INDUSTRIES, Ltd.

IMPORTANT SAFETY BULLETIN

DATE: JUNE 1, 2004

RIDE: GRAVITRON/STARSHIP, ET. AL

SUBJECT: INSPECTION, REPAIR & REPORTING PROCEDURE

- **This bulletin is a supplement to and supersedes the bulletin issued April 12, 2004. This bulletin addresses specific new items and clarifies some of the inspection procedures from the previous bulletin. Review this bulletin to see if you have complied in an appropriate manner to the items listed in these bulletins.**

1) Prior to inspection, clean the lower end of the panels with compressed air or pressure washer. To aid in inspecting the panel frame components (Drawing: Panel Inspection). Make sure the power is off to the panels if water is used.
   - **NOTE: USE EYE PROTECTION WHEN CLEANING THE PANELS.**

2) Inspect the welds and steel components of the 16 panel frames (15 passengers and 1 door) for cracked or broken components. Initial repair for cracked or broken components is to be performed with 7018 Rod using good welding procedure by a certified welder. Inspect bottom strap to seat angle gussets for missing or broken gussets ***SEE** (Drawing: Bottom of Panel-Weld Inspection). If bottom strap to seat angle gussets are broken, contact Wisdom Industries for repair information. Review attached drawing for inspection points. Inspect bottom strap.
   - ✓ **If more than one repair is required per panel, then contact Wisdom to determine if repair or replacement is required.**

***Continued on next page**

3) Inspect platforms hinges.
   - ✓ **Inspect the hinge for wear is when the wing is folded. Hinge bolts can be removed one at a time and the hinge checked for cracks or wear in the hinges *SEE (Drawing: Hinge Inspection).**

4) Inspect platform hinge bolts.
   - ✓ **Inspect that the 8 hinge bolts are in good condition. The hinge bolts must be grade 8 or better. After the ride is set up if any of the hinge bolts can be turned, that hinge bolt must be removed and the hinge bore and bolt must be inspected for wear. With the ride set up, loosen the hinge nut ½ turn. Use a torque wrench preset to release when a torque of 50 ft-lbs is reached and turn the head of the bolt. If the bolt can be turned with a torque of less than 50 ft. lbs. remove and inspect the bolt and hinge for wear. *Refer to Drawing 7W 041 and 7W 041A for proper length of replacement bolt.**
   - ✓ **Hinge bolts Grade 8 or better. Length per attached drawing showing Typical Section of Hinge and Rotated Inner Hinge Assembly.**

5) Check tire air pressure for 35 PSI minimum to 40 PSI maximum on all 3 idler and 1 drive tire.

6) Measure wing sag is less than ¾ inch of main table.
   - ✓ **Review attached procedure for checking wing level and shim wing if required *SEE (Procedure: Leveling Procedure for the Gravitron Turntable dated 8-12-93).**

7) Inspect condition of the underwing alignment bolts (table bolts). These bolts must be 7/8 diameter and 8" length.
   *SEE (Drawing: Turntable Bolt Inspection).
   - ✓ **Replace on a yearly basis. If the bolt is bent during operation, contact WMI for instructions on possible structure concerns.**

8) Inspect that the 4 under wing alignment bolts are snug. If the wing has a gap at the wing to platform joint that can be pulled together by the alignment bolt, contact Wisdom Industries for possible hinge wear and repair procedure.

9) Check condition of the fiberglass at the lower end of the panel. If a

***Continued on next page**

large amount of fiberglass is missing under the floor strap or on the vertical section just up from the floor this must be replaced.

- ✓ **Inspect the condition and amount of fiberglass at the bottom of the panels. Wear to the fiberglass behind the panel safety plates is acceptable. If more than 25 percent of the fiberglass that goes under the bottom panel strap is missing the fiberglass must be replaced. If more than 10 percent of the vertical surface next to the panel safety straps is broken or missing this must be replaced. Contact Wisdom Industries for the proper materials and procedure to repair or replace the fiberglass.**
- ✓ **Inspect the fiberglass for cracking at the lower section of the panel near the floor. Cracks or torn fiberglass of more than 2 inches will need to be repaired prior to further operation.**

10) During operation if the platform demonstrates movement (wobble) of over 1 ½ inches, measure wing sag and shim platform.

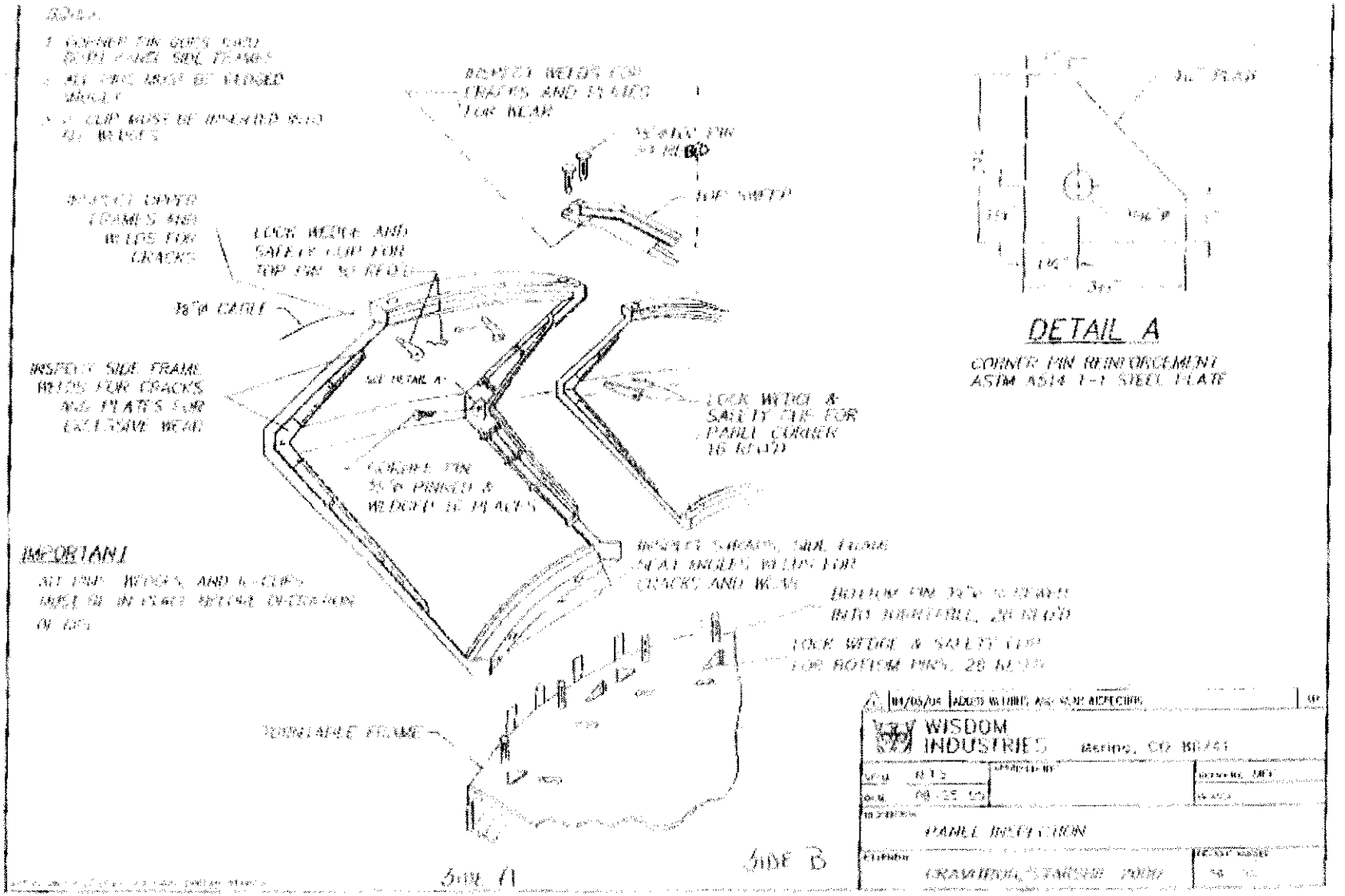
- ✓ **Contact Wisdom Industries for additional areas to inspect.**

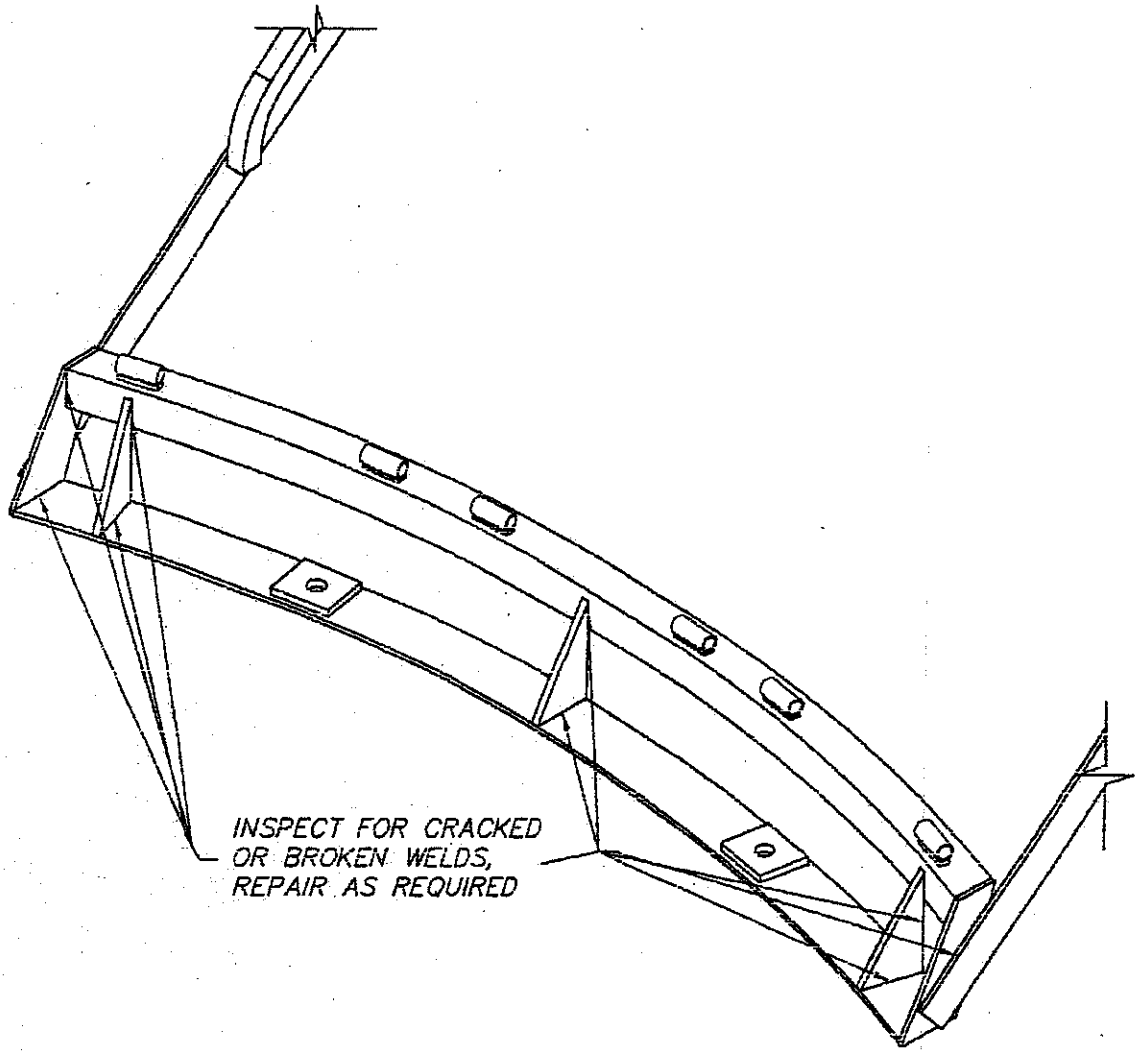
11)Review attached drawing for procedure on repair of under wing alignment hole and sleeves ***SEE** (Drawing: Turntable Bolt Inspection).

12) Follow attached "Gravitron Checklist After Setup" and "Daily Inspection Checklist."

NOTE: This Safety and Inspection Requirements Bulletin is being announced in cooperation with the U.S. Consumer Product Safety Commission, who will monitor the effectiveness if its implementation and distribution.

Any questions about this bulletin should be directed to the manufacturer: Victor Wisdom, Wisdom Industries, Ltd. (970) 522-7515; FAX: (970) 522-2902 or Email: vwisdom@kci.net or to Jay DeMarco, Office of Compliance, US CPSC (301)- 504-0359 or Email: jdemarco@cpsc.gov





WISDOM INDUSTRIES Merino, CO 80741

APPROVED BY:

DESCRIPTION: BOTTOM OF PANEL – WELD INSPECTION

SCALE: QUARTER

DATE: 04/08/04

EQUIPMENT: GRAVITRON/STARSHIP

DRAWN BY: JJR

DRAWING NUMBER: 7W 039

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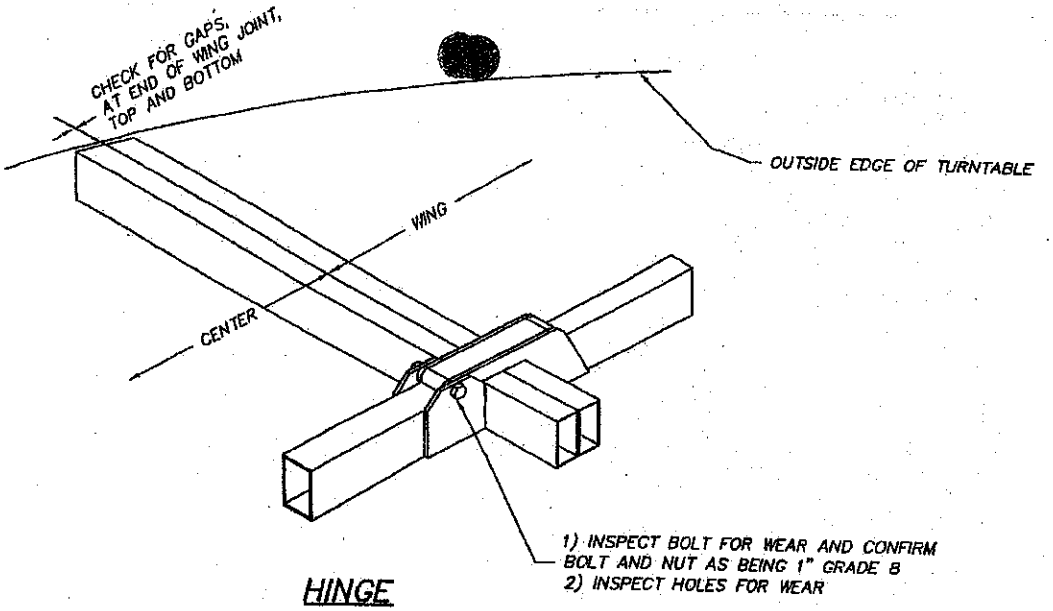

HINGE

(8 PER RIDE, 4 PER SIDE)
OUTSIDE HINGE SHOWN, THE INSIDE HINGES ARE SIMILAR

NOTE:
1. WHILE LOWERING WINGS OBSERVE THE HINGES FOR MOVEMENT OR SLACK.
2. WHEN THE WINGS ARE DOWN CHECK TUBING BETWEEN THE WINGS AND CENTER SECTIONS TO SEE IF THERE ANY GAPS ON THE TOP AND BOTTOM CAUSED BY WORN HINGES.
3. HINGE BOLTS WILL BE 1" GRADE 8. THE OUTSIDE HINGES REQUIRE A LENGTH OF 6" AND THE INSIDE HINGES WILL REQUIRE A LENGTH OF 7". CUT EACH BOLT OFF ¼" FROM THE END OF THE NUT. , USE A GRADE 8 LOCKNUT.
4. BOLTS ON THE HYDRAULIC LIFT ARE 1" GRADE 8 X 5½".

NOTE: BEFORE REMOVING ANY BOLTS, INSURE THE TURNTABLE IS SET UP, ALL SUPPORTS AND TURNTABLE BOLTS ARE IN PLACE, AND SET UP A SOLID SUPPORT UNDER THAT SECTION THE BOLT IS TO BE REMOVED.

WISDOM INDUSTRIES Merino, CO 80741			
SCALE: 1"=1'-0"	APPROVED BY:		DRAWN BY: JJR
DATE: 04/08/04			REVISED
DESCRIPTION: HINGE INSPECTION			
EQUIPMENT: GRAVITRON/STARSHIP			DRAWING NUMBER: 7W 041

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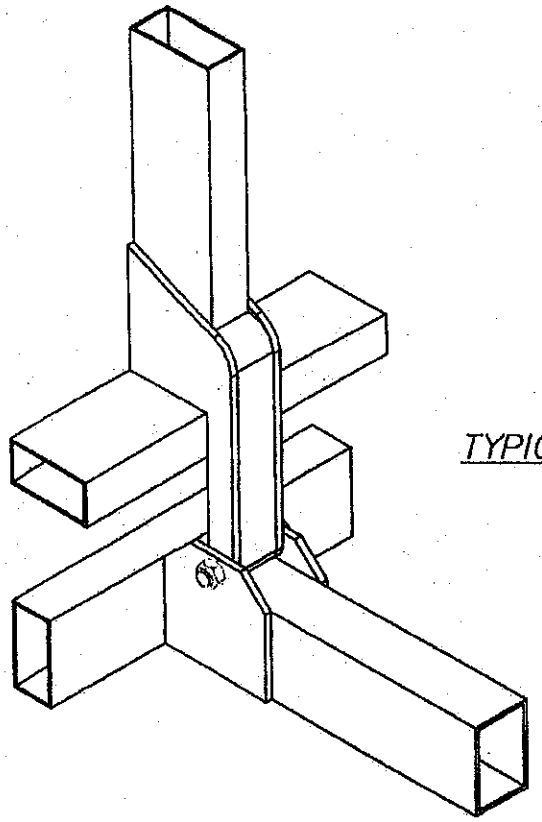
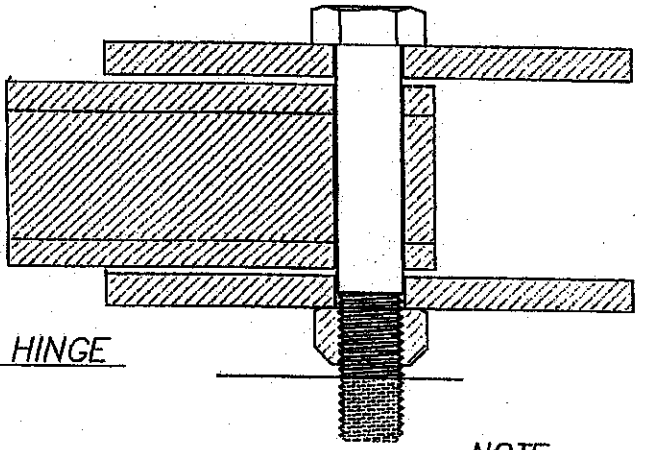


ROTATED INNER HINGE ASSEMBLY

INNER HINGE SHOWN, OUSIDE AND LIFT HINGE ASSEMBLIES ARE SIMILAR



TYPICAL SECTION OF HINGE BOLT

NOT TO SCALE

NOTE:
* TRIM BOLT ¼" FROM END OF NUT.

DRAWING: TW 041A

WISDOM INDUSTRIES, Ltd.

8-12-93

RE: LEVELING PROCEDURE FOR THE GRAVITRON TURNTABLE

The platform level should be checked annually.

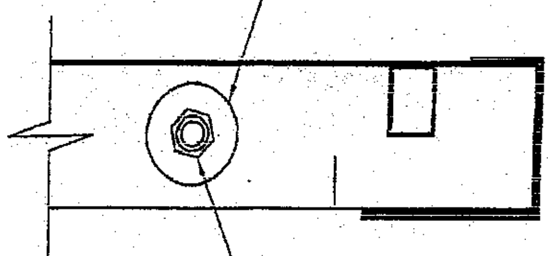
Procedure:

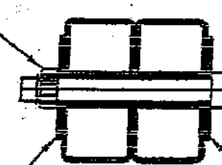
1. Set up ride and run two or three times.
2. Lower the two outriggers or remove the idler tires.
3. Measure up from one point on the ground near the end of the outrigger.
4. Measure to the middle of the wing about where the turnbuckles attach for transporting the ride.
5. Turn the ride on quarter turn 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 ½" of the main turntable.
9. If the difference is greater than ¾" 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.**





SIDE VIEW OF TURNTABLE BOLT

SECTION VIEW OF TURNTABLE BOLT

NOTE:
1. INSPECT NUTS AND BOLTS TO INSURE GRADE 8.
2. CHECK BOLT AND NUT FOR WEAR. IF BOLT SHOWS WEAR OR THE THREADS SHOW NICKS OR WEAR REPLACE.
3. THE REINFORCING WASHER IS WELDED INPLACE ON THE NEWER RIDES, ON THE OLDER RIDE THIS WASHER MAY BE HELD IN PLACE BY THE WASHER.
4. THIS BOLT WILL NOT BE USED TO DRAW THE SECTIONS TOGEATHER, IF THIS REQUIRED CHECK THE HINGES TO CORRECT THIS PROBLEM.

WISDOM INDUSTRIES Merino, CO 80741	APPROVED BY:		
SCRIPTION: TURNTABLE BOLT INSPECTION	MAY 1 2 2004	SCALE:	1½"=1'-0"
		DATE:	04/09/04
UIPMENT: GRAVITRON/STARSHIP	DRAWN BY: JJR	DRAWING NUMBER:	7W 042

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GRAVITRON / STARSHIP

TURNTABLE BOLT INSPECTION

7W 042

GRAVITRON CHECK LIST
AFTER SET UP

OUTSIDE RIDE CHECKLIST

1. Check that trailer stands are tight.
2. Check that **4 wing safety bolts** are installed, tight, and safety keyed under the main turn table at the joint.
3. Check that the outrigger braces, with the turnbuckle are pinned on the side with the low ear.
4. Check that the outrigger turnbuckles are snug. Do not over tighten.
5. Check that the outrigger brace pins are all installed and have safety keys.
6. Check that skirting panels do not rub on idler tires and are not under the edge of the turntable.
7. Check that inside curved fence is safety keyed under the floor.
8. Check steps are level, stable, and no more than 8 inches to each step.
9. Check that the fence is more than three feet from the largest diameter of the turning portion of the ride.
10. Check that the cable in the canvas top is in the groove around the top of the ride panels and tight.
11. Check that work platform is folded back.
12. Check grid sign hinges and pins.
13. Check grid sign braces for safety keys.
14. Check that top sign brackets are pinned and safety keyed.
15. Check that top sign hooks are pulled down and fully engaged.
16. Check that top sign is plugged in.
17. Check that there is nothing on top of ride that can be thrown off while the ride is running.
18. Check that there is nothing that can fall onto the ride while the ride is spinning.

DRIVE SYSTEM

19. Check that drive belts are hooked up and adjusted.
20. Check that lock nut on drive belt adjusting turnbuckle is tight.
21. Check that drive wheel adjusting locknuts are tight.

22. Check that all wheel lug nuts are tight.

23. Check that all three wheel brakes work.

24. Check that idler tires have full tread contact.

25. Check air pressure in all drive and idler tires, they should be about 35 PSI.

26. Check that battery is filled with water and battery charger works.

INSIDE RIDE CHECKLIST

27. Check that 30 special top wedges are the only wedges used to pin the top of the panels to the sweeps.

28. **Check that 16 corner pins and wedges are installed between panels behind couches. (See drawing showing pin installation).**

29. **Check that 28 wedges are installed in the floor pins and are snug.**

30. Check that safety keys are in all wedges.

31. Check that couch support trusses are hooked on locks.

32. Check all panel frames for cracks in steel structure at corners and at main frame welds.

33. Check that all couches are evenly spaced and that the mounting bolts are tight. (If any are found loose use locktight but do not over tighten.)

34. Check that seats move up and down smoothly without catching.

35. Check that couplers between inside curved fence sections are all installed and pinned.

36. Check that door cables are in good condition and adjusted with equal tension.

DOOR CHECK LIST

37. Check that the door cable clamps are tight.

38. Check that door micro-switches are adjusted properly so that door opener stops at the right place.

39. Check that the door does not slip down when the door is open.

40. Check that trap door is unlocked.

41. Check that there is nothing on the floor or console that is loose or can fly out while the ride is running.

DAILY INSPECTION CHECK LIST

DAY 1 2 3 4 5 6 7

OUTSIDE RIDE

CHECK

( )( )( )( )( )( ) Stairs level and stable.
( )( )( )( )( )( ) Fence at least 3 feet from barrel outside edge.
( )( )( )( )( )( ) Work platform folded back.
( )( )( )( )( )( ) Top cable in groove and tight.
( )( )( )( )( )( ) Top is clear of any objects or tools.
( )( )( )( )( )( ) Trailer stands tight.
( )( )( )( )( )( ) 4 Turntable safety bolts tight and safety keyed.

DRIVE

CHECK

( )( )( )( )( )( ) Drive and idler tires adjusted to touch rim.
( )( )( )( )( )( ) Drive tire adjusting lock nuts tight.
( )( )( )( )( )( ) Drive belt tight.
( )( )( )( )( )( ) Drive belt turnbuckle lock nut tight.
( )( )( )( )( )( ) Tire lug nuts are tight.
( )( )( )( )( )( ) Tire pressure 35 PSI
( )( )( )( )( )( ) Skirting panels do not touch idler tires.
( )( )( )( )( )( ) Skirting is outside the edge of the turntable.
( )( )( )( )( )( ) Brakes are positive.
( )( )( )( )( )( ) Ride clear under the turntable.
( )( )( )( )( )( ) Battery terminals tight.
( )( )( )( )( )( ) Battery filled with water.
( )( )( )( )( )( ) Charger turned on and operating.

INSIDE RIDE

CHECK

( )( )( )( )( )( ) 16 wedges and pins in corners of panels behind couches
( )( )( )( )( )( ) 30 top pins and hooked wedges installed in tops of panels.
( )( )( )( )( )( ) 28 Floor wedges installed on bottom of panels.
( )( )( )( )( )( ) All wedges and pins tight and safety keyed.
( )( )( )( )( )( ) All seat support trusses hooked.
( )( )( )( )( )( ) All couch mounting bolts tight.
( )( )( )( )( )( ) All cam followers turn easily and nuts tight.
( )( )( )( )( )( ) All couches move up and down easy.
( )( )( )( )( )( ) Trap door is unlocked.
( )( )( )( )( )( ) All panel lights plugged in.
( )( )( )( )( )( ) Top of light controllers and amplifier clear.
( )( )( )( )( )( ) Floor and console clear of loose objects.
( )( )( )( )( )( ) Carpet clean.
( )( )( )( )( )( ) Console area neat and trash picked up.
( )( )( )( )( )( ) Check panel frames for cracks in steel structure.

DOOR

CHECK

( )( )( )( )( )( ) Tightness of door cable clamps.
( )( )( )( )( )( ) Door cables are in good condition.
( )( )( )( )( )( ) Open and close stops are adjusted.
( )( )( )( )( )( ) Opener clutch and brake do not slip.
( )( )( )( )( )( ) Door side panels installed and pinned.

WISDOM INDUSTRIES, Ltd.

IMPORTANT SAFETY BULLETIN

DATE: April 12, 2004

RIDE: GRAVITRON/STARSHIP 2000

SUBJECT: INSPECTION/ASSEMBLY/OPERATION PROCEDURE

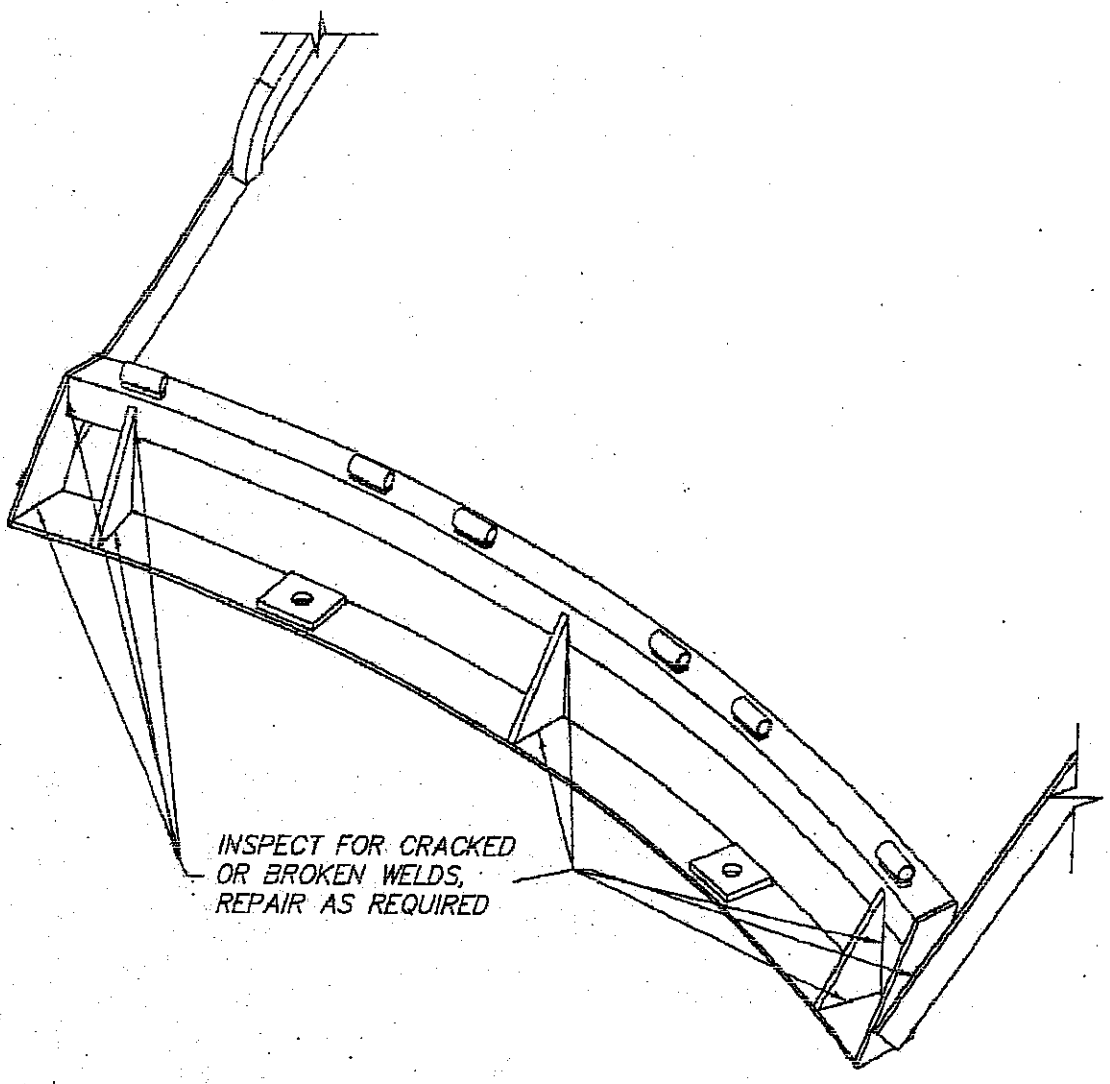
COMPLIANCE: **IMMEDIATE**

1) Inspect the welds and steel components of the internal frame of each panel for cracked or broken components.
   - ✓ **If broken components or numerous repairs have been required contact Wisdom Industries, for information on proper repair procedure. Weld cracked or broken components with 7018 rod using good welding procedure.**
2) Check platforms hinges for wear.
   - ✓ **The best time to check the hinge for wear is when the wing is folded. Hinge bolts can be removed one at a time and the hinge checked for cracks or wear in the hinge. *NOTE: If the hinge bolt can be easily turned with the wing down check that hinge for wear.**
3) Check platform hinge bolts for wear.
   - ✓ **Check that the 4 outer main hinge bolts are in good condition. The hinge bolts must be grade 8. After the ride is set up if any of the hinge bolts can be turned that hinge and bolt must be checked for wear.**
4) Check that the platform hinge bolts are grade 8.
5) Check tire air pressure for 35 psi.
   - ✓ **Air pressure must be within 5 psi on all 4 tires.**

***Continued on next page**

6) Check wing level within ¾ inch of main table.
   - ✓ **Review procedure for checking wing level and shim wing if required.**
7) Check bottom strap to seat angle gussets for missing or broken gussets.
   - ✓ **If bottom strap to seat angle gussets are broken or have been welded several times, replace gussets.**
8) Check condition of the underwing alignment bolts. These bolts must be 7/8 diameter.
9) Check condition of the fiberglass at the lower end of the panel. If a large amount of fiberglass is missing under the floor strap or on the vertical section just up from the floor strap this must be replaced.

❖ **NOTE: ATTACHED IS OUR 8/93 BULLETIN ON PROCEDURES FOR LEVELING OF GRAVITRON/STARSHIP 2000 TURNTABLE WINGS. SEE #6**



WISDOM INDUSTRIES Merino, CO 80741

APPROVED BY:

ESCRIPTION

BOTTOM OF PANEL – WELD INSPECTION

SCALE: QUARTER

DATE: 04/08/04

DUIPMENT:

DRAWN BY:

DRAWING NUMBER:

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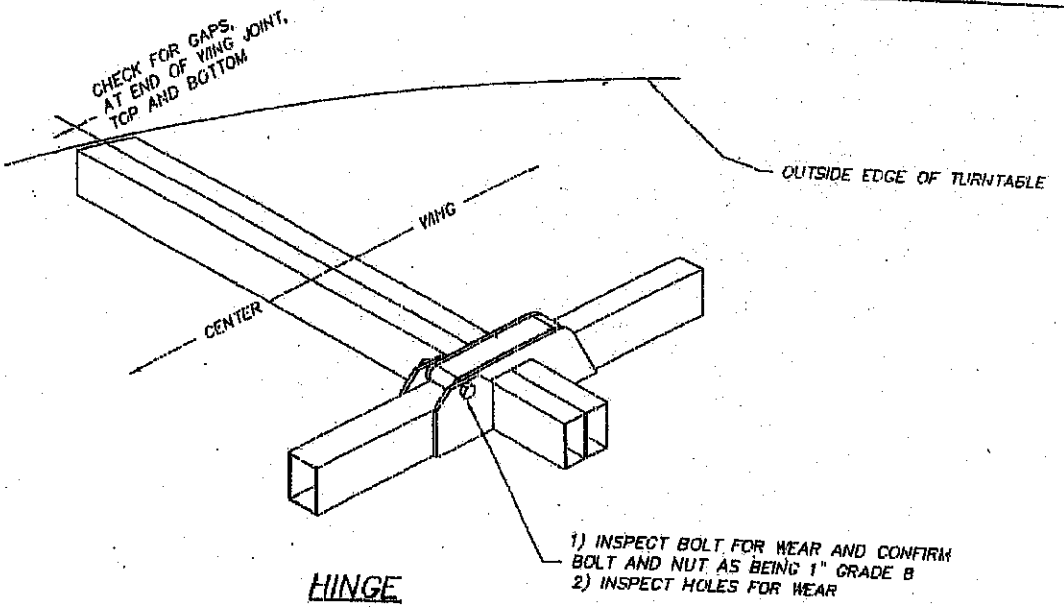


HINGE

(8 PER RIDE, 4 PER SIDE)
OUTSIDE HINGE SHOWN, THE INSIDE HINGES ARE SIMILAR

NOTE:
1. WHILE LOWERING WINGS OBSERVE THE HINGES FOR MOVEMENT OR SLACK.
2. WHEN THE WINGS ARE DOWN CHECK TUBING BETWEEN THE WINGS AND CENTER SECTIONS TO SEE IF THERE ANY GAPS ON THE TOP AND BOTTOM CAUSED BY WORN HINGES.
3. HINGE BOLTS WILL BE 1" GRADE 8; THE OUTSIDE HINGES REQUIRE A LENGTH OF 6" AND THE INSIDE HINGES WILL REQUIRE A LENGTH OF 7". CUT EACH BOLT OFF ¼" FROM THE END OF THE NUT. USE A GRADE 8 LOCKNUT.
4. BOLTS ON THE HYDRAULIC LIFT ARE 1" GRADE 8 X 5½".

NOTE: BEFORE REMOVING ANY BOLTS, INSURE THE TURNTABLE IS SET UP, ALL SUPPORTS AND TURNTABLE BOLTS ARE IN PLACE, AND SET UP A SOLID SUPPORT UNDER THAT SECTION THE BOLT IS TO BE REMOVED.

WISDOM INDUSTRIES Merino, CO 80741			
SCALE: 1"=1'-0"	APPROVED BY:	DRAWN BY: JJP	
DATE: 04/08/04		REVISED	
DESCRIPTION: HINGE INSPECTION			
EQUIPMENT: GRAVITRON/STARSHIP		DRAWING NUMBER: 7W 041	

WISDOM INDUSTRIES, Ltd.

8-12-93

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 on 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 ½" of the main turntable.
9. If the difference is greater than ¾" 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.**

GRAVITRON CHECK LIST
AFTER SET UP

OUTSIDE RIDE CHECKLIST

1. Check that trailer stands are tight.
2. Check that **4 wing safety bolts** are installed, tight, and safety keyed under the main turn table at the joint.
3. Check that the outrigger braces, with the turnbuckle are pinned on the side with the low ear.
4. Check that the outrigger turnbuckles are snug. Do not over tighten.
5. Check that the outrigger brace pins are all installed and have safety keys.
6. Check that skirting panels do not rub on idler tires and are not under the edge of the turntable.
7. Check that inside curved fence is safety keyed under the floor.
8. Check steps are level, stable, and no more than 8 inches to each step.
9. Check that the fence is more than three feet from the largest diameter of the turning portion of the ride.
10. Check that the cable in the canvas top is in the groove around the top of the ride panels and tight.
11. Check that work platform is folded back.
12. Check grid sign hinges and pins.
13. Check grid sign braces for safety keys.
14. Check that top sign brackets are pinned and safety keyed.
15. Check that top sign hooks are pulled down and fully engaged.
16. Check that top sign is plugged in.
17. Check that there is nothing on top of ride that can be thrown off while the ride is running.
18. Check that there is nothing that can fall onto the ride while the ride is spinning.

DRIVE SYSTEM

19. Check that drive belts are hooked up and adjusted.
20. Check that lock nut on drive belt adjusting turnbuckle is tight.
21. Check that drive wheel adjusting locknuts are tight.

22. Check that all wheel lug nuts are tight.

23. Check that all three wheel brakes work.

24. Check that idler tires have full tread contact.

25. Check air pressure in all drive and idler tires, they should be about 35 PSI.

26. Check that battery is filled with water and battery charger works.

INSIDE RIDE CHECKLIST

27. Check that 30 special top wedges are the only wedges used to pin the top of the panels to the sweeps.

28. **Check that 16 corner pins and wedges are installed between panels behind couches. (See drawing showing pin installation).**

29. **Check that 28 wedges are installed in the floor pins and are snug.**

30. Check that safety keys are in all wedges.

31. Check that couch support trusses are hooked on locks.

32. Check all panel frames for cracks in steel structure at corners and at main frame welds.

33. Check that all couches are evenly spaced and that the mounting bolts are tight. (If any are found loose use locktight but do not over tighten.)

34. Check that seats move up and down smoothly without catching.

35. Check that couplers between inside curved fence sections are all installed and pinned.

36. Check that door cables are in good condition and adjusted with equal tension.

DOOR CHECK LIST

37. Check that the door cable clamps are tight.

38. Check that door micro-switches are adjusted properly so that door opener stops at the right place.

39. Check that the door does not slip down when the door is open.

40. Check that trap door is unlocked.

41. Check that there is nothing on the floor or console that is loose or can fly out while the ride is running.

DAILY INSPECTION CHECK LIST

DAY **OUTSIDE RIDE**

1 2 3 4 5 6 7

CHECK

( )( )( )( )( )( ) Stairs level and stable.
( )( )( )( )( )( ) Fence at least 3 feet from barrel outside edge.
( )( )( )( )( )( ) Work platform folded back.
( )( )( )( )( )( ) Top cable in groove and tight.
( )( )( )( )( )( ) Top is clear of any objects or tools.
( )( )( )( )( )( ) Trailer stands tight.
( )( )( )( )( )( ) 4 Turntable safety bolts tight and safety keyed.

DRIVE

CHECK

( )( )( )( )( )( ) Drive and idler tires adjusted to touch rim.
( )( )( )( )( )( ) Drive tire adjusting lock nuts tight.
( )( )( )( )( )( ) Drive belt tight.
( )( )( )( )( )( ) Drive belt turnbuckle lock nut tight.
( )( )( )( )( )( ) Tire lug nuts are tight.
( )( )( )( )( )( ) Tire pressure 35 PSI
( )( )( )( )( )( ) Skirting panels do not touch idler tires.
( )( )( )( )( )( ) Skirting is outside the edge of the turntable.
( )( )( )( )( )( ) Brakes are positive.
( )( )( )( )( )( ) Ride clear under the turntable.
( )( )( )( )( )( ) Battery terminals tight.
( )( )( )( )( )( ) Battery filled with water.
( )( )( )( )( )( ) Charger turned on and operating.

INSIDE RIDE

CHECK

( )( )( )( )( )( ) 16 wedges and pins in corners of panels behind couches
( )( )( )( )( )( ) 30 top pins and hooked wedges installed in tops of panels.
( )( )( )( )( )( ) 28 Floor wedges installed on bottom of panels.
( )( )( )( )( )( ) All wedges and pins tight and safety keyed.
( )( )( )( )( )( ) All seat support trusses hooked.
( )( )( )( )( )( ) All couch mounting bolts tight.
( )( )( )( )( )( ) All cam followers turn easily and nuts tight.
( )( )( )( )( )( ) All couches move up and down easy.
( )( )( )( )( )( ) Trap door is unlocked.
( )( )( )( )( )( ) All panel lights plugged in.
( )( )( )( )( )( ) Top of light controllers and amplifier clear.
( )( )( )( )( )( ) Floor and console clear of loose objects.
( )( )( )( )( )( ) Carpet clean.
( )( )( )( )( )( ) Console area neat and trash picked up.
( )( )( )( )( )( ) Check panel frames for cracks in steel structure.

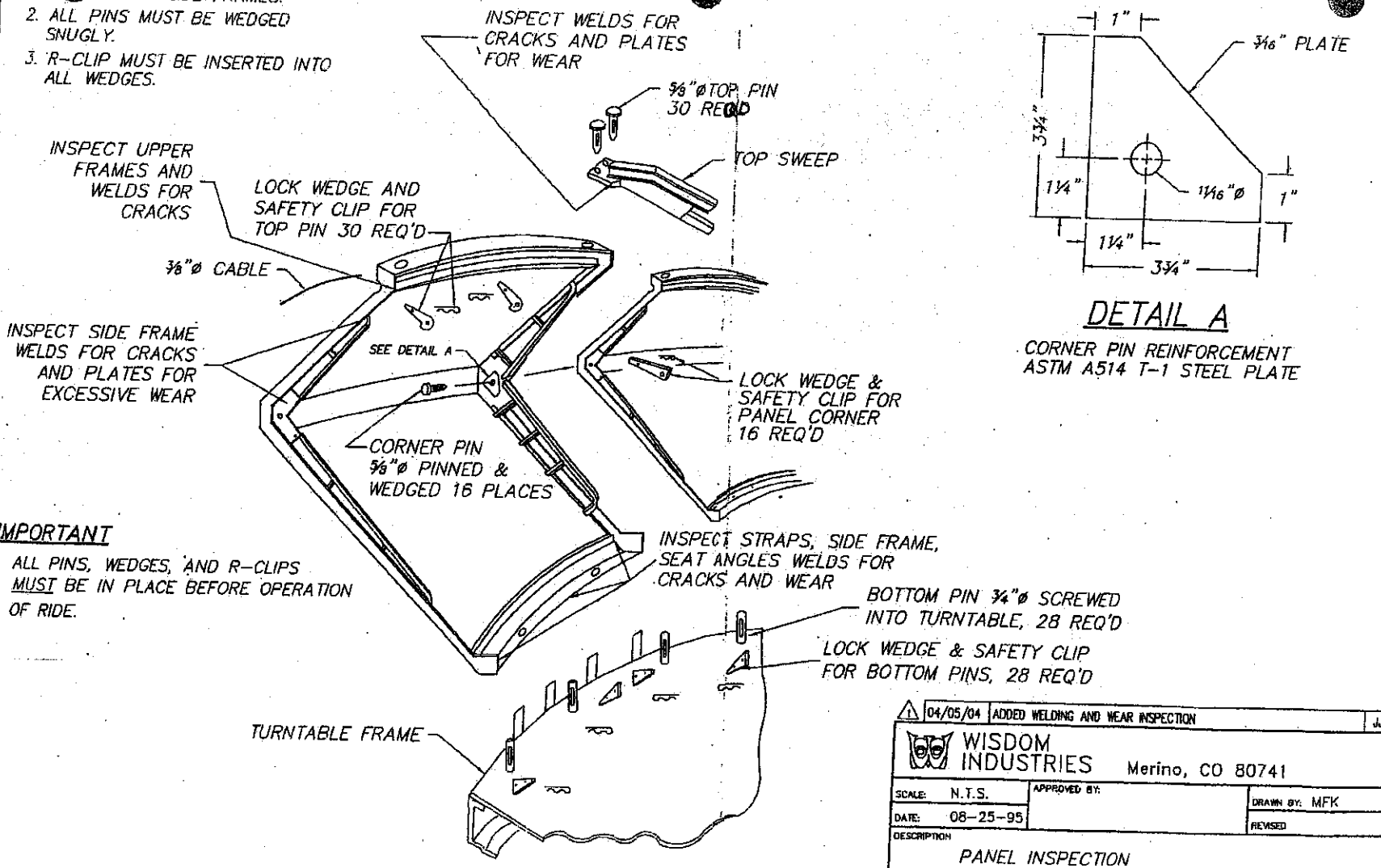
DOOR

CHECK

( )( )( )( )( )( ) Tightness of door cable clamps.
( )( )( )( )( )( ) Door cables are in good condition.
( )( )( )( )( )( ) Open and close stops are adjusted.
( )( )( )( )( )( ) Opener clutch and brake do not slip.
( )( )( )( )( )( ) Door side panels installed and pinned.

NOTES:

1. CORNER PIN GOES THRU BOTH PANEL SIDE FRAMES.
2. ALL PINS MUST BE WEDGED SNUGLY.
3. R-CLIP MUST BE INSERTED INTO ALL WEDGES.



DETAIL A

CORNER PIN REINFORCEMENT
ASTM A514 T-1 STEEL PLATE

IMPORTANT

ALL PINS, WEDGES, AND R-CLIPS MUST BE IN PLACE BEFORE OPERATION OF RIDE.

1	04/05/04	ADDED WELDING AND WEAR INSPECTION — JJR

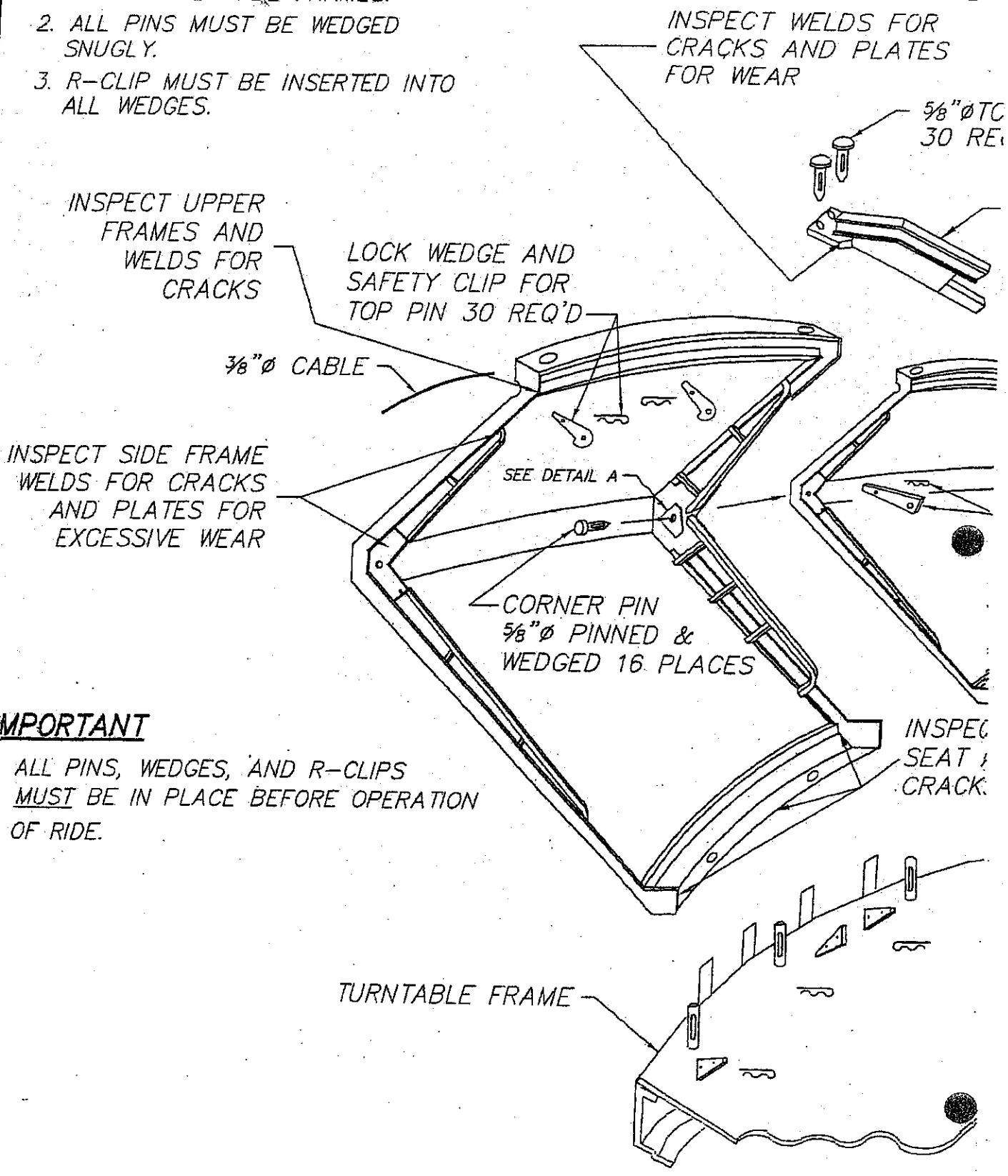
WISDOM INDUSTRIES Merino, CO 80741

SCALE: N.T.S.	APPROVED BY:	DRAWN BY: MFK
DATE: 08-25-95		REVISED
DESCRIPTION: PANEL INSPECTION		
EQUIPMENT: GRAVITRON/STARSHIP 2000		DRAWING NUMBER: SW -03

APR 05, 2004 - 12:34:03 < L:\GRAV-DWG\SW-03.DWG >

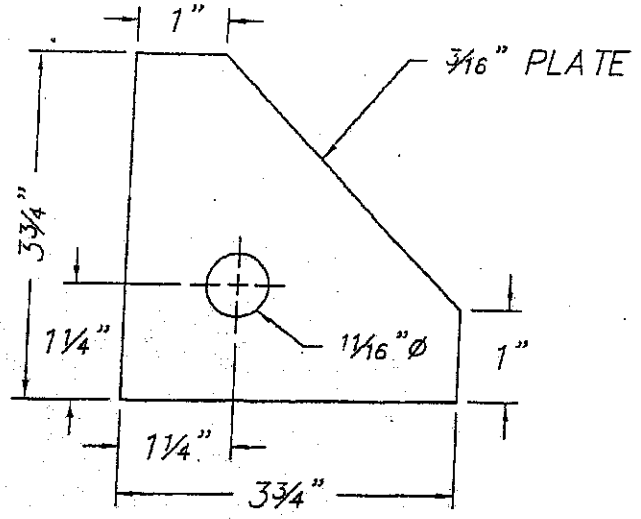
NOTES:

1. CORNER PIN GOES THRU BOTH PANEL SIDE FRAMES.
2. ALL PINS MUST BE WEDGED SNUGLY.
3. R-CLIP MUST BE INSERTED INTO ALL WEDGES.



IMPORTANT

ALL PINS, WEDGES, AND R-CLIPS MUST BE IN PLACE BEFORE OPERATION OF RIDE.



DETAIL A

CORNER PIN REINFORCEMENT
ASTM A514 T-1 STEEL PLATE

'IN

D SWEEP

OCK WEDGE &
AFETY CLIP FOR
AN CORNER
S REQ'D

'TRAPS, SIDE FRAME,
LES WELDS FOR
ND. WEAR

BOTTOM PIN 3/4"Ø SCREWED
INTO TURNTABLE, 28 REQ'D

LOCK WEDGE & SAFETY CLIP
FOR BOTTOM PINS, 28 REQ'D

1	04/05/04	ADDED WELDING AND WEAR INSPECTION — JJR

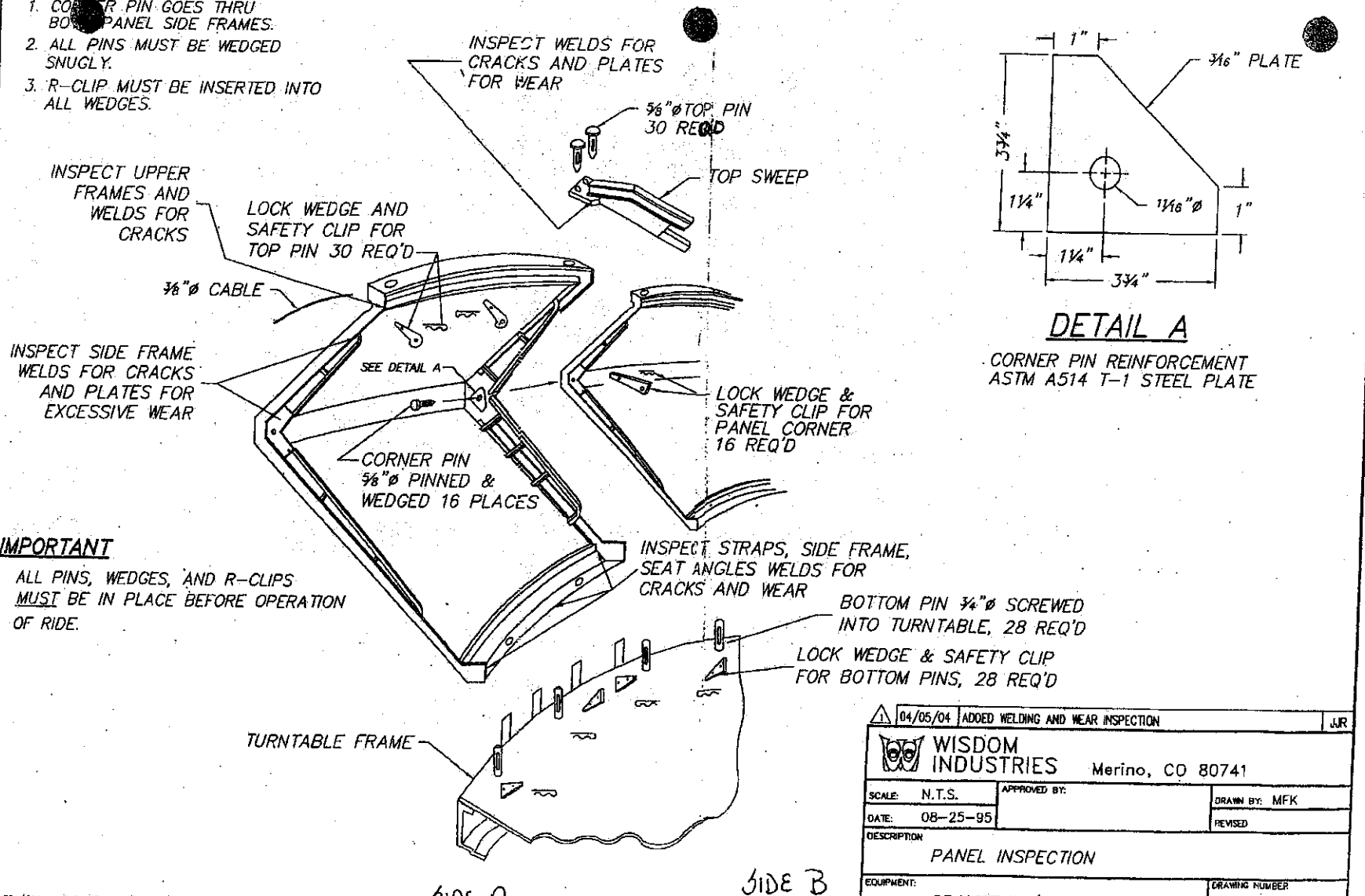
WISDOM INDUSTRIES Merino, CO 80741

SCALE: N.T.S.	APPROVED BY:	DRAWN BY: MFK
DATE: 08-25-95		REVISED
DESCRIPTION: PANEL INSPECTION		
EQUIPMENT: GRAVITRON/STARSHIP 2000		DRAWING NUMBER: 3W -03

SIDE B

NOTES:

1. CORNER PIN GOES THRU BOTH PANEL SIDE FRAMES.
2. ALL PINS MUST BE WEDGED SNUGLY.
3. R-CLIP MUST BE INSERTED INTO ALL WEDGES.



DETAIL A

CORNER PIN REINFORCEMENT
ASTM A514 T-1 STEEL PLATE

IMPORTANT

ALL PINS, WEDGES, AND R-CLIPS MUST BE IN PLACE BEFORE OPERATION OF RIDE.

1	04/05/04	ADDED WELDING AND WEAR INSPECTION — JR

WISDOM INDUSTRIES Merino, CO 80741

SCALE: N.T.S.	APPROVED BY:	DRAWN BY: MFK
DATE: 08-25-95		REVISED
DESCRIPTION: PANEL INSPECTION		
EQUIPMENT: GRAVITRON/STARSHIP 2000		DRAWING NUMBER: 3W -03

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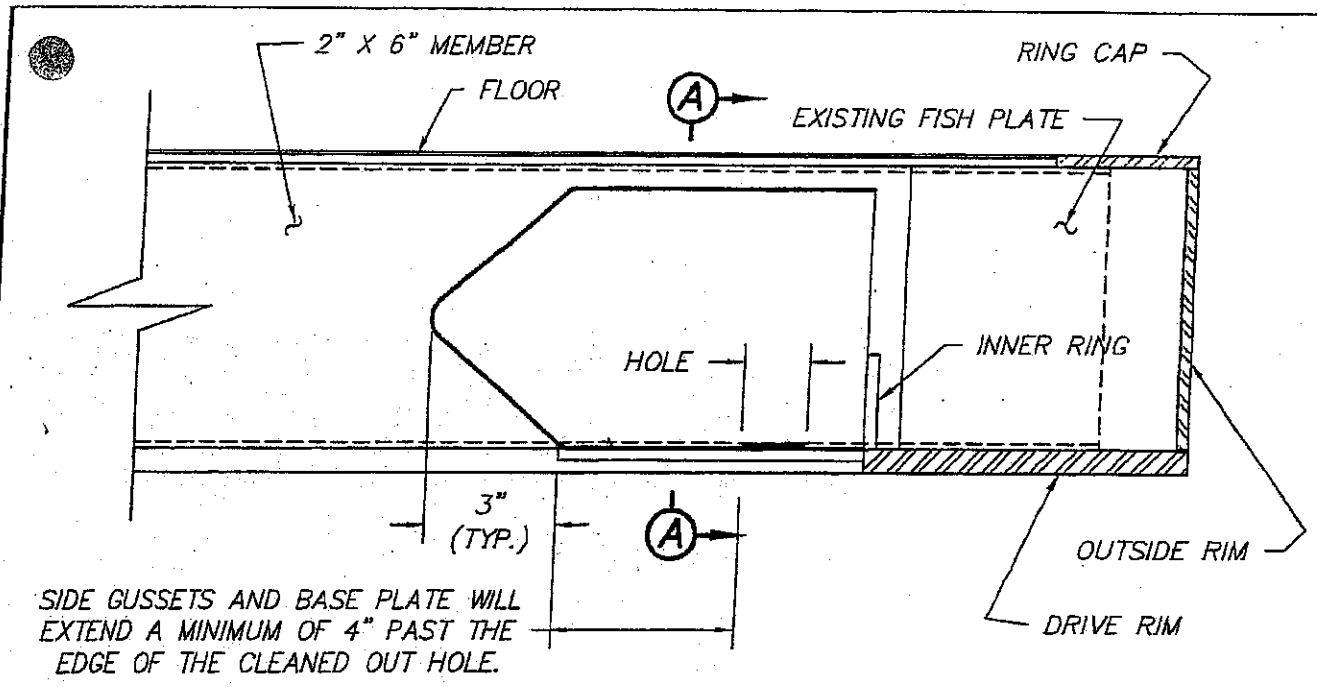
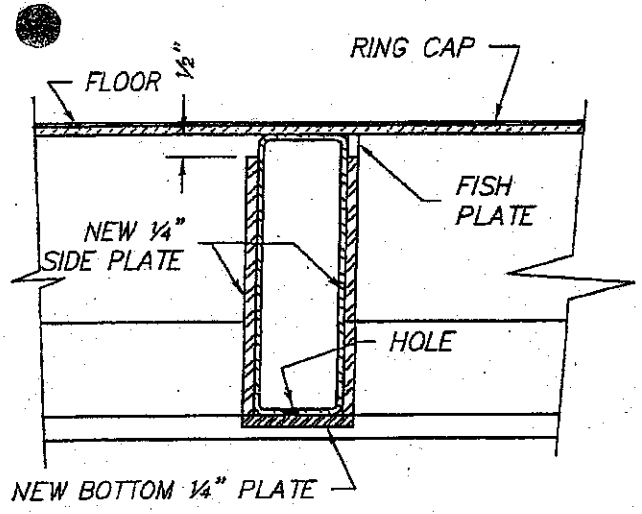


SIDE VIEW



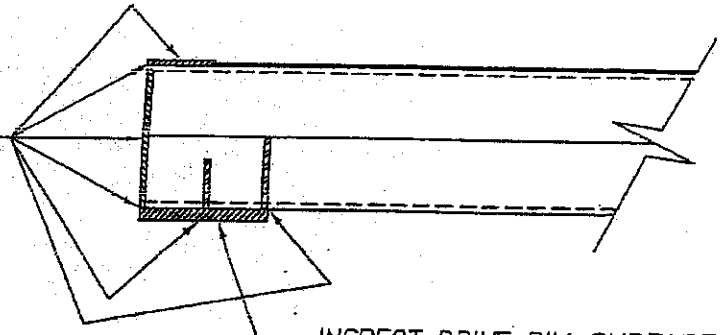
INSTRUCTIONS:
1. UPON FINDING HOLE IN THE SUPPORT TUBING, PROBE THE LENGTH OF THE TUBING TO DETERMINE ITS SIZE AND ANY OTHER HOLES.
2. ONCE THE SIDE AND LENGTH OF THE HOLE IS DETERMINED CUT THE SIDE GUSSETS AND THE BASE PLATE FROM ¼" PLATE AS SHOWN.
3. INSTALL THE GUSSET PLATES BY WELDING ALL AROUND THIS PLATE WITH A 3/16" FILLET WELD.
4. INSTALL THE BASE PLATE BY WELDING THE BASE PLATE ALL AROUND WITH A 3/16" FILLET WELD.

SECTION A–A

WISDOM INDUSTRIES Merino, CO 80741	APPROVED BY:	
DESCRIPTION: REPAIR OF THE BOTTOM OF 2X6 SUPPORT MEMBERS	SCALE: 3"=1'–0"	DATE: 02/23/04
EQUIPMENT: GRAVITRON/STARSHIP	DRAWN BY: JJR	DRAWING NUMBER: 7W 040

FEB 23, 2004 - 10:18:29 < L:\GRAV-DWG\7W04001.DWG >

VISUALLY INSPECT WELDS AND PLATES FOR BREAKS, CRACKED WELDS, AND OR EXCESS RUSTING REMOVING ANY LOOSE OR CRACKED COATING OR DIRT IF REQUIRED



INSPECT DRIVE RIM SURFACE FOR MATERIAL THICKNESS; MINIMUM THICKNESS OF 3/16"

SECTION THRU TURNTABLE RIM

NOTE:

1) DO A COMPLETE INSPECTION ALL AROUND THE RIM.
2) PRIME AND PAINT ALL AREAS THAT THE METAL WAS EXPOSED BY THE INSPECTION.
3) FOR REPAIRS IF REQUIRED SEE SHEET 3W 14.

WISDOM INDUSTRIES Merino, CO 80741

APPROVED BY:

DESCRIPTION: INSPECTION OF TURNTABLE

SCALE: 1½"=1'-0"

DATE: 02/11/04

EQUIPMENT: GRAVITRON/STARSUB

DRAWN BY: LJR

DRAWING NUMBER: 3W-12

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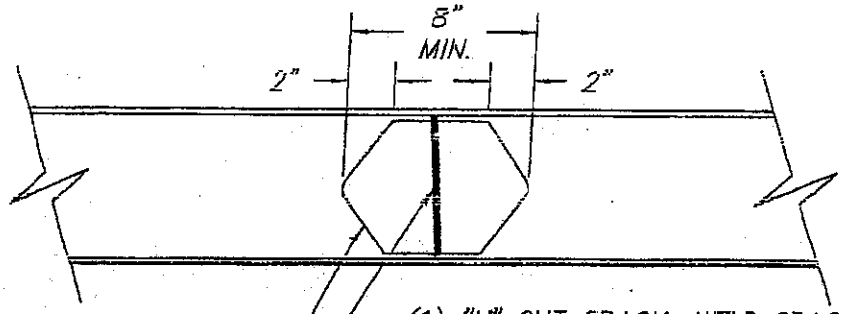


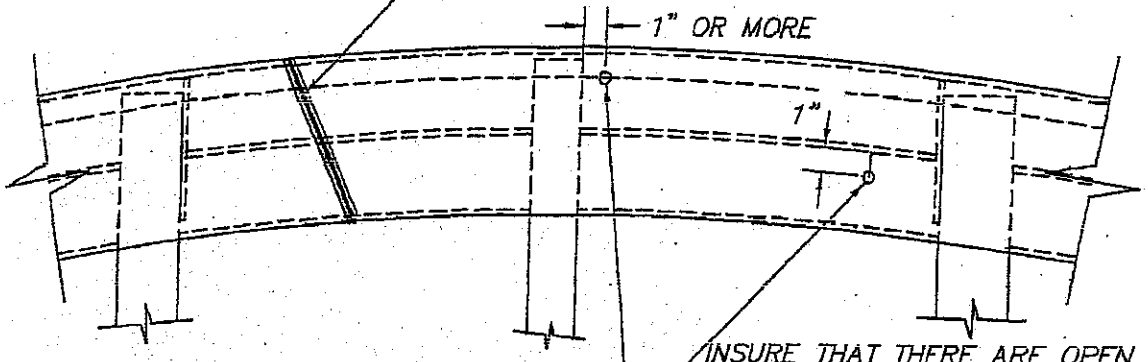
(1) "V" OUT CRACK, WELD CRACK WITH 7018 ROD, AND GRIND SMOOTH

(2) FABRICATE FISH PLATE OUT OF ¼" MILD STEEL. WELD ALL AROUND

OUTSIDE RIM REPAIR

(THIS APPLIES ONLY BETWWEN TUBING SUPPORTS, IF CRACK IS AT TUBING SUPPORTS CONTACT MANUFACTURE AS TO SIZE OF FISH PLATE)

BROKEN OR CRACKED DRIVE RIM – REPAIR BY GRINDING OUT THE CRACK NO LESS THAN ¼" DEEP AND MAKE A FULL PENATRATION WELD WITH 7018 ROD, FILL WITH WELD TO FLUSH. DO NOT GRIND.



INSURE THAT THERE ARE OPEN DRAIN HOLES IN THE DRIVE RIM. IF THERE ARE NO HOLES, DRILL ½" HOLES INTO THE DRIVE RIM BETWEEN THE SUPPORTS AND APPROXIMATELY 1" OR MORE AWAY FROM RIBS & 1" FROM EDGE OF STRAP.

DRIVE RIM REPAIR & DRAIN HOLES

VIEW FROM THE BOTTOM OF TURNTABLE

WISDOM INDUSTRIES Merino, CO 80741

APPROVED BY:

DESCRIPTION: REPAIRS ON THE RIM AFTER INSPECTION

SCALE: 1½"=1'-0"

DATE: 02/11/04

EQUIPMENT: GRAVITRON/STARSHIP

DRAWN BY: JJR

DRAWING NUMBER: JW-14

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WISDOM INDUSTRIES, Ltd.

SERVICE NOTICE

DATE: MAY 21, 2003

RIDE: GRAVITRON & STARSHIP 2000 WITH AIR OPERATED DOORS

SUBJECT: AIR DOOR

Some of the original installations of the air door retrofit kits and original equipment Starship 2000 doors do not have air flow restrictor fittings installed. This will allow the door to close slowly in the event that an air line is broken.

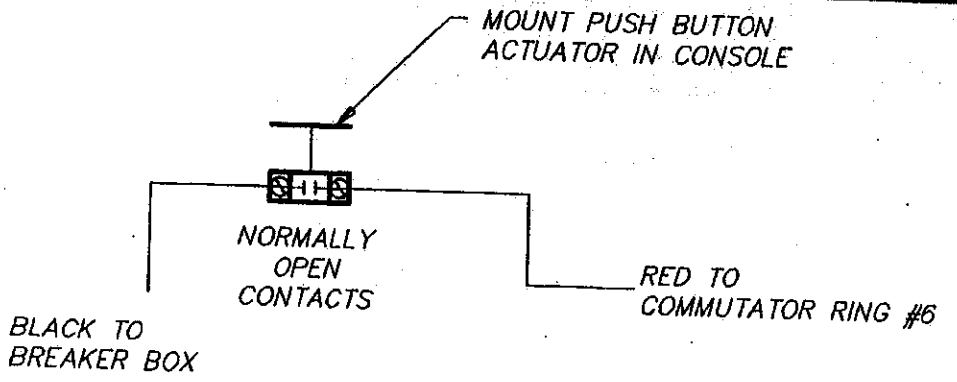
The restrictor fitting is the first fitting that is screwed into the rod end of the air cylinders mounted on the doors.

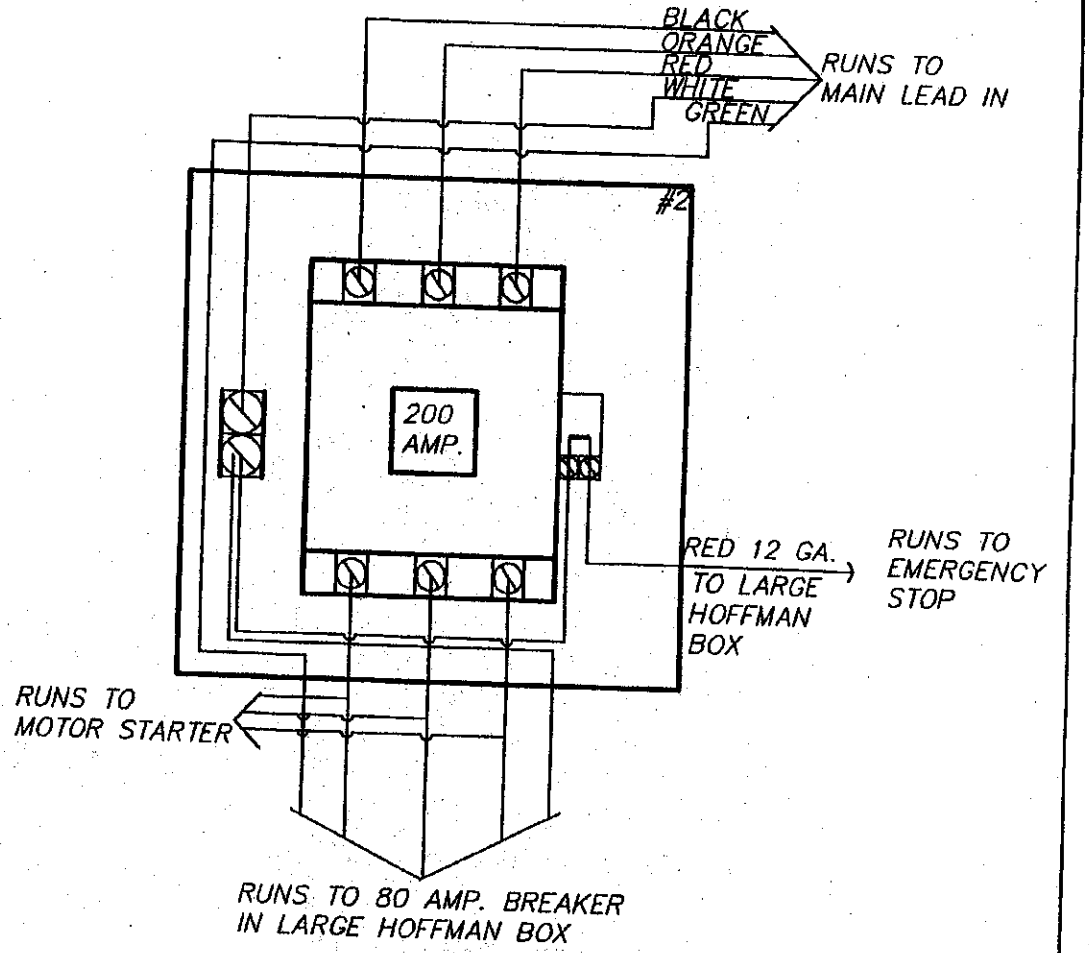
Remove the 90 degree airline fitting that is screwed into the rod end of each cylinder and look into the reducer fitting that is left in the cylinder. There should be a 1/16 inch hole drilled in that fitting. If the fitting is open a restrictor fitting must be installed on both cylinders rod ends.

To make a fitting take a reducer fitting and braze the male end closed. Use caution not to damage the threads.

1. Drill a 1/16 inch hole in the brazed material.
2. Clean the fitting of all drill chips.
3. Install the fittings in the rod end of the cylinders.
4. Reattach the 90 degree fittings and airlines.
5. Test the door operation.

INSTALLATION OF SHUNT TRIP FOR STARSHIP 2000 / GRAVITRON





DANGER

DISCONNECT AND LOCK OUT MAIN POWER TO RIDE WHEN INSTALLING SHUNT TRIP.

1. REPLACE MAIN FUSE BOX WITH 200 AMP. SHUNT TRIP. BREAKER.
2. CONNECT MAIN POWER AND POWER OUT TO SHUNT TRIP.
3. RUN RED WIRE FROM SHUNT TRIP TO EXTRA RED WIRE IN LARGE HOFFMAN BOX WHICH RUNS TO COMMUTATOR RING #6.
4. INSTALL A MOMENTARY PUSH BUTTON IN CONSOLE WITH N/O CONTACTS.
5. RUN A WIRE FROM ONE CONTACT TO #6 RING ON THE COMMUTATOR.
6. FROM THE OTHER CONTACT, RUN A WIRE TO THE BREAKER IN THE CONSOLE BREAKER BOX.

7-22-96

WISDOM INDUSTRIES, INC

BULLETIN

DATE: SEPTEMBER 1995
RIDE: GRAVITRON
TO: RIDE INSPECTORS
SUBJECT: INSPECTION GUIDELINES

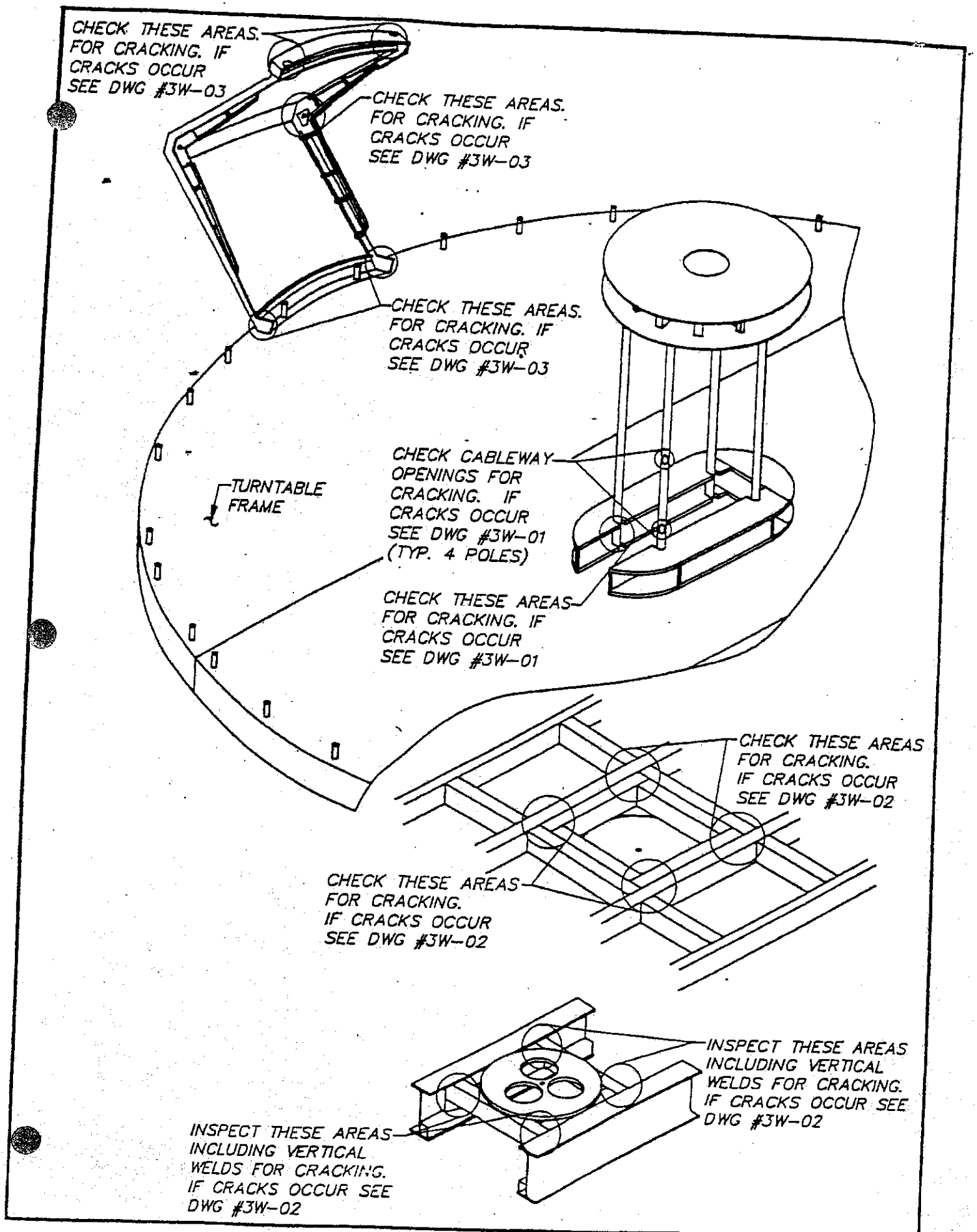
Wisdom Industries has received several inquiries on what to inspect on the Gravitron structure. To assist in inspection of the Gravitron, we are providing a drawing pointing out the areas that must be inspected. We have noted from used rides that we have worked on this year that Gravitrons are not being inspected as diligently as in the past.

The enclosed drawing points out areas of the turntable, console, trailer frame, and panel internal framework which must be inspected to insure safe operation of the ride.

Use this as a guideline for your inspection of Gravitrons in the field. This does not list every point but does show areas that seem to be missed regularly. Review the operator's manual for proper assembly procedures and location of pins.

Inspection Areas

1. Panel lower frame.
2. Panel top frame.
3. Panel side frame.
4. Turntable bearing box frame.
5. Turntable frame.
6. Console upright posts.
7. Trailer main bearing box attachment.


CHECK THESE AREAS. FOR CRACKING. IF CRACKS OCCUR SEE DWG #3W-03
CHECK THESE AREAS. FOR CRACKING. IF CRACKS OCCUR SEE DWG #3W-03
CHECK THESE AREAS. FOR CRACKING. IF CRACKS OCCUR SEE DWG #3W-03
TURNTABLE FRAME
CHECK CABLEWAY OPENINGS FOR CRACKING. IF CRACKS OCCUR SEE DWG #3W-01 (TYP. 4 POLES)
CHECK THESE AREAS FOR CRACKING. IF CRACKS OCCUR SEE DWG #3W-01
CHECK THESE AREAS FOR CRACKING. IF CRACKS OCCUR SEE DWG #3W-02
CHECK THESE AREAS FOR CRACKING. IF CRACKS OCCUR SEE DWG #3W-02
INSPECT THESE AREAS INCLUDING VERTICAL WELDS FOR CRACKING. IF CRACKS OCCUR SEE DWG #3W-02
INSPECT THESE AREAS INCLUDING VERTICAL WELDS FOR CRACKING. IF CRACKS OCCUR SEE DWG #3W-02

WISDOM INDUSTRIES, Ltd.

SERVICE NOTICE

DATE: FEBRUARY 1995

RIDE: GRAVITRON

SUBJECT: MAIN BEARING

Due to a shortage in availability and extreme long lead times, replacement main bearings for the GRAVITRON turntable will not be available until the end of June. We recommend that you insure that the main bearing is well greased every week.

Weekly inspect the main turntable bearing under the operator's seat for plastic pieces coming out from the bearing. If this is caught early enough, a new plastic cage can be installed and give you extended life of your bearing. If you wait until metal particles are seen, you will be unable to repair your bearing and would have to wait until a new bearing is available and can be shipped to you the end of June.

Replacement of the cage would require shipping the old bearing to us for tear down and replacement. You would be looking at 1 week down time rather than 16-20 weeks from now.

This is not a safety hazard but will shut the ride down if you need a bearing.

WISDOM INDUSTRIES, INC

SERVICE NOTICE

DATE: **APRIL 1995**
RIDE: **GRAVITRON**
SUBJECT: **MAIN BEARING**

Due to a shortage of new GRAVITRON main bearings for a short time, we are giving a $500.00 credit for usable cores.

The bearing will be sent to the Bearing Manufacturer to be rebuilt. If it is rebuildable, we will then give you a credit. If not, then we can return the bearing to you or dispose of it as you wish.

Call us at 800-634-6097 if you wish to take advantage of this offer.

If you no longer own this ride, please call us at 800-634-6097 so we can update our records.

WISDOM INDUSTRIES, INC

SERVICE NOTICE

DATE: **FEBRUARY 1995**
RIDE: **GRAVITRON**
SUBJECT: **MAIN BEARING**

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This is not a safety hazard but will shut the ride down if you need a bearing.

WISDOM INDUSTRIES, Ltd.

GRAVITRON OUTRIGGER BRACE ORIENTATION
7-21-94

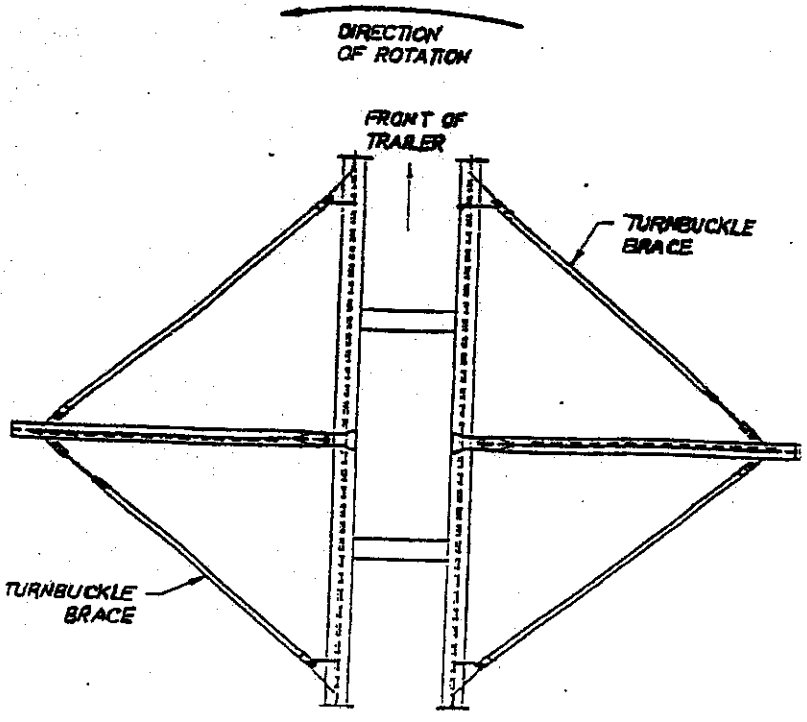
The Gravitron turns in a counter-clockwise direction (CCW), as is normal with American manufactured rides. Each idler wheel has two braces, one is a rigid brace and the other has a large turnbuckle made in it for adjustment purposes.

If you stand outside the ride, facing the idler wheel, the rigid brace must be installed on the left side of the wheel. If you move to the rear of the ride and face the center, the rigid brace goes on the left as well.

With the braces installed correctly, the dynamic forces generated while braking the ride, put the rigid brace in tension loading and the turnbuckle brace in compression loading.

The turnbuckle brace is to reduce the rattle caused when the brake is applied. They only need to be snug.

If the Gravitron operator has had problems bending or breaking the turnbuckle brace, it has probably been installed in the wrong location. Operators might find it handy to mark the braces and their respective attachment points with paint to aid proper assembly.



WMI INDUSTRIES, LTD.

Gravitron Service Bulletin.

ENCLOSED IN THIS LETTER:

OPERATOR MANUAL CHANGES. (Add to operators manual immediately.)
All rides

Add the enclosed pages to your operation manual. The major difference is the emphasis on installing the corner pins and wedges. The number of pins are noted so that an inspector or operator can count the number of pins to be sure that they are all installed each time the ride is set up before operation.

TURNTABLE SAFETY PLATES. (Compliance is required immediately)
All rides

The enclosed drawing and installation instructions are for the addition of the turntable safety plates. You may have already installed these plates if you have not they are mandatory and must be installed before continued operation of the ride. This applies to park and portable Gravitrons.

CORNER PIN REINFORCEMENT PLATES. (Compliance required by 5/15/92)
All rides

The drawing showing the corner pin reinforcement plate. Installation is mandatory for all portable Gravitrons. Several owners have indicated that they have found radial cracking on this plate. There has been no indication of pin pull through but this will help to keep the cracks from occurring. The plates require only a retaining weld to hold in position. The plates will be supplied at no charge but will require new corner pins which are longer to allow for the increased thickness of material. You can elect to use grade 5 bolts instead of the corner pins. The pins are $8.61 each. You can still use your present wedges.

The plates are optional for park model rides. The park model Gravitrons only need to install a structural washer on the head side of the corner bolt.

Only 16 plates or washers are needed. See drawing for location and welding information. The plate or washer goes on the right side of the panel under the head of the corner pin.

P. O. BOX 5000 — STERLING, COLORADO 80751 — 303-522-7515 — TELEX - 45-0012

FLOOR PIN INSPECTION AND REPLACEMENT. (Inspection immediate before continued operation. Replacement according to amount of wear.)

Portable rides only.

The enclosed sheet details the inspection procedure and the amount of wear that is allowable on the floor pin before it must be replaced. The pins must be inspected weekly until the higher slot pins are used.

When the higher slot pins are installed the inspection can be performed each time the ride is set up.

CARPET TRIMMING. (Comply at time of pin inspection.)

Portable rides only

Cut the carpeting back one inch around each floor pin. This will allow easier inspection of the floor pin condition. This will also help reduce the amount of water that can stand next to the pin reducing the capillary action of the carpet. Do not replace the carpeting in this area.

INSIDE STRAP INSTALLATION. (Installation required by 4/15/92)

Mandatory on all portable rides. Recommended for park rides

The enclosed drawing shows the installation of straps to the inside of the panel bottom frame. This will assist in inspection of the panel frame by showing if a weld is broken around the pin reinforcement plate.

PANEL BOTTOM FRAME INSPECTION (Inspection required immediately.)

Portable rides only

With the panel lifted from the floor, look inside each hole where the floor pin goes through the steel frame. Look for cracking of the 1/4" strap that is under the 3/8" Pin hole reinforcing plate.

21. Working from the rear erection platform, move all loose sweep trusses clear of the panels.

22. Disconnect the left hand sweep which is pinned to the panel opposite the door panel and slide it just past the center of t he panels. Insert pin and wedge in hole provided.

23. Remove center couch from the first panel in the stack.

24. Using the chain block, raise the first panel clear of floor traveling pins sand using the switch adjacent to the erection platform, rotate platform counter-clockwise until the panel moves away from the stack.

25. Turn the ride almost one-half turn. Slide the first panel back so that it meets up with the door panel.

26. Loosely attach floor wedges, position top truss, and pin and wedge. Tighten wedges and put in safety keys.

27. Turn platform clockwise until the second panel of the stack is under the chain block.

28. Repeat this operation until No. 7 panel is ready to go into position.

29. Turn the ride until the panel is centered in the opening.

30. Fold back platform that is on the rear of the trailer.

31. Raise bottom of the panel and tip sideways. Push out until clear of the other panels. Let the panel back down and place on pins on the floor. Raise the panel so it can be pinned to the sweeps.

32. Raise the panel until lit is in position. Swing last truss into position and secure with pins and wedges.

33. As one side of the GRAVITRON is now assembled, revolve the platform so that the second set of stacked panels are under the aluminum beam.

34. Proceed as with step 10 to complete the second half of the ride.

35. Pin and wedge the center of the panels. **There are 16 pins and wedges that connect the center of the panels behind the couches.**

36. The center fences can now be set into place and pinned together with 1/4 inch bolts through the connecting tubes.

37. Position vinyl top on the center of the ride and proceed to roll out the top, making sure that the two turnbuckles are over the panel with the slot, which is directly opposite the door.

38. Hook up turnbuckles and tension cable.

39. When the top is secured, wind up the center with the wheel provided in the ceiling of the center console. *CAUTION* DO NOT OVER-TIGHTEN TOP. THIS CAN PUSH OUT CANVAS CENTER.

40. Open the door and revolve platform so that the door opening is to the front of the trailer.

41. Start from one end and lift three couches forward on one support frame. The left and right couches have hooks the support frame sets onto. This holds the couches in an upright position.

42. Continue with this procedure until all couches have been secured.

GRAVITRON CHECK LIST
AFTER SET UP

OUTSIDE RIDE CHECKLIST

1. Check that trailer stands are tight.
2. Check that **4 wing safety bolts** are installed, tight, and safety keyed under the main turn table at the joint.
3. Check that the outrigger braces, with the turnbuckle are pinned on the side with the low ear.
4. Check that the outrigger turnbuckles are snug. Do not over tighten.
5. Check that the outrigger brace pins are all installed and have safety keys.
6. Check that skirting panels do not rub on idler tires and are not under the edge of the turntable.
7. Check that inside curved fence is safety keyed under the floor.
8. Check steps are level, stable, and no more than 8 inches to each step.
9. Check that the fence is more than three feet from the largest diameter of the turning portion of the ride.
10. Check that the cable in the canvas top is in the groove around the top of the ride panels and tight.
11. Check that work platform is folded back.
12. Check grid sign hinges and pins.
13. Check grid sign braces for safety keys.
14. Check that top sign brackets are pinned and safety keyed.
15. Check that top sign hooks are pulled down and fully engaged.
16. Check that top sign is plugged in.
17. Check that there is nothing on top of ride that can be thrown off while the ride is running.
18. Check that there is nothing that can fall onto the ride while the ride is spinning.

DRIVE SYSTEM

19. Check that drive belts are hooked up and adjusted.
20. Check that lock nut on drive belt adjusting turnbuckle is tight.
21. Check that drive wheel adjusting locknuts are tight.
22. Check that all wheel lug nuts are tight.
23. Check that all three wheel brakes work.
24. Check that idler tires have full tread contact.

25. Check air pressure in all drive and idler tires, they should be about 45-50 PSI.

26. Check that battery is filled with water and battery charger works.

INSIDE RIDE CHECKLIST

27. Check that 30 special top wedges are the only wedges used to pin the top of the panels to the sweeps.

28. **Check that 16 corner pins and wedges are installed between panels behind couches. (See drawing showing pin installation).**

29. **Check that 28 wedges are installed in the floor pins and are snug.**

30. Check that safety keys are in all wedges.

31. Check that couch support trusses are hooked on locks.

32. Check that all couches are evenly spaced and that the mounting bolts are tight. (If any are found loose use locktight but do not over tighten.)

33. Check that seats move up and down smoothly without catching.

34. Check that couplers between inside curved fence sections are all installed and pinned.

35. Check that door cables are in good condition and adjusted with equal tension.

DOOR CHECK LIST

36. Check that the door cable clamps are tight.

37. Check that door micro-switches are adjusted properly so that door opener stops at the right place.

38. Check that the door does not slip down when the door is open.

39. Check that trap door is unlocked.

40. Check that there is nothing on the floor or console that is loose or can fly out while the ride is running.

DAILY INSPECTION CHECK LIST

OUTSIDE RIDE

DAY 1 2 3 4 5 6 7

CHECK

( )( )( )( )( )( ) Stairs level and stable.
( )( )( )( )( )( ) Fence at least 3 feet from barrel outside edge.
( )( )( )( )( )( ) Work platform folded back.
( )( )( )( )( )( ) Top cable in groove and tight.
( )( )( )( )( )( ) Top is clear of any objects or tools.
( )( )( )( )( )( ) Trailer stands tight.
( )( )( )( )( )( ) 4 Turntable safety bolts tight and safety keyed.

DRIVE

CHECK

( )( )( )( )( )( ) Drive and idler tires adjusted to touch rim.
( )( )( )( )( )( ) Drive tire adjusting lock nuts tight.
( )( )( )( )( )( ) Drive belt tight.
( )( )( )( )( )( ) Drive belt turnbuckle lock nut tight.
( )( )( )( )( )( ) Tire lug nuts are tight.
( )( )( )( )( )( ) Tire pressure 45-50 PSI
( )( )( )( )( )( ) Skirting panels do not touch idler tires.
( )( )( )( )( )( ) Skirting is outside the edge of the turntable.
( )( )( )( )( )( ) Brakes are positive.
( )( )( )( )( )( ) Ride clear under the turntable.
( )( )( )( )( )( ) Battery terminals tight.
( )( )( )( )( )( ) Battery filled with water.
( )( )( )( )( )( ) Charger turned on and operating.

INSIDE RIDE

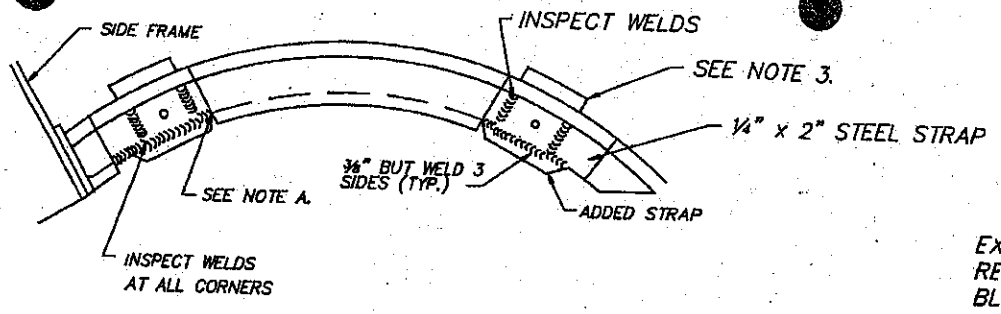
CHECK

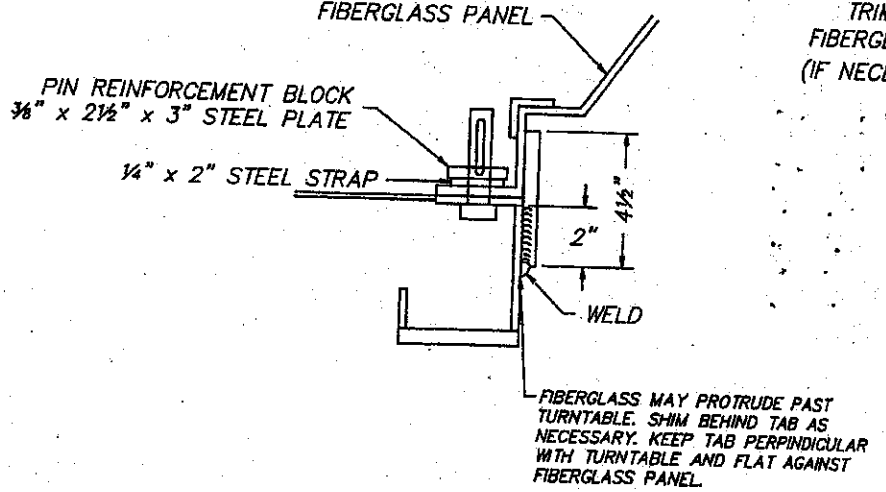
( )( )( )( )( )( ) 16 wedges and pins in corners of panels behind couches
( )( )( )( )( )( ) 30 top pins and hooked wedges installed in tops of panels.
( )( )( )( )( )( ) 28 Floor wedges installed on bottom of panels.
( )( )( )( )( )( ) All wedges and pins tight and safety keyed.
( )( )( )( )( )( ) All seat support trusses hooked.
( )( )( )( )( )( ) All couch mounting bolts tight.
( )( )( )( )( )( ) All cam followers turn easily and nuts tight.
( )( )( )( )( )( ) All couches move up and down easy.
( )( )( )( )( )( ) Trap door is unlocked.
( )( )( )( )( )( ) All panel lights plugged in.
( )( )( )( )( )( ) Top of light controllers and amplifier clear.
( )( )( )( )( )( ) Floor and console clear of loose objects.
( )( )( )( )( )( ) Carpet clean.
( )( )( )( )( )( ) Console area neat and trash picked up.

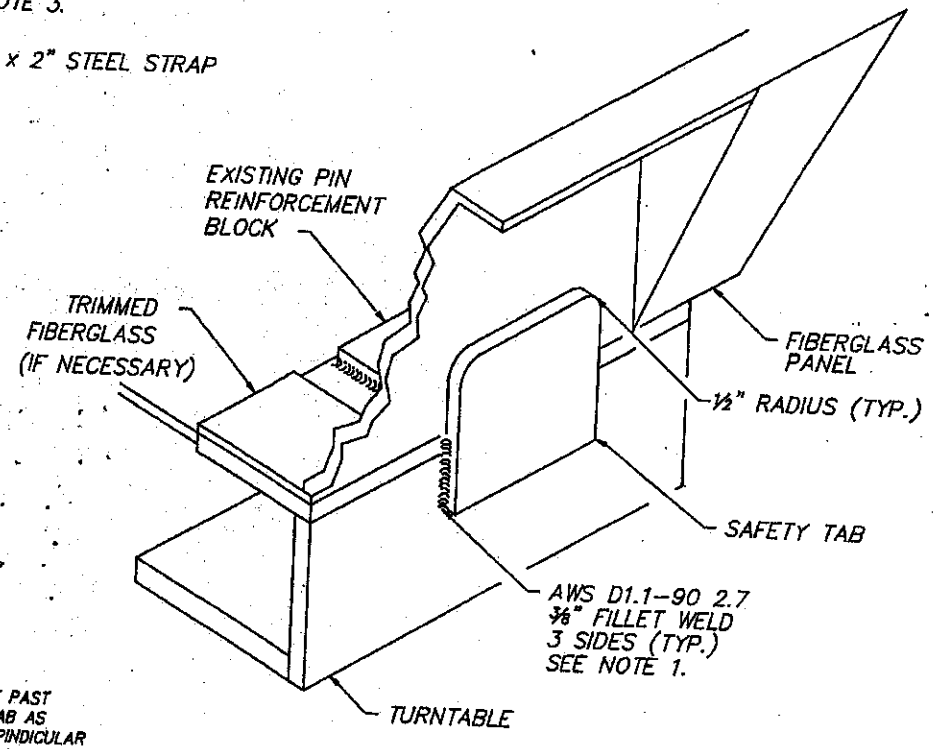
DOOR

CHECK

( )( )( )( )( )( ) Tightness of door cable clamps.
( )( )( )( )( )( ) Door cables are in good condition.
( )( )( )( )( )( ) Open and close stops are adjusted.
( )( )( )( )( )( ) Opener clutch and brake do not slip.
( )( )( )( )( )( ) Door side panels installed and pinned.







PANEL INSPECTION PROCEDURE

A. TRIM FIBERGLASS BACK 1" FROM WELD ON PIN REINFORCEMENT BLOCK ON INSIDE OF PANEL IF NECESSARY FOR BETTER WELD INSPECTION.

B. INSPECT STRAP, PIN REINFORCEMENT BLOCK & WELDS FOR EXCESSIVE WEAR, DAMAGE OR FRACTURES.

SAFETY TAB RETRO FIT

1. WELD SAFETY TAB TO OUTSIDE OF TURNTABLE OPPOSITE PIN AROUND OUTSIDE PERIMITER OF TAB.
2. 30 SAFETY TABS REQUIRED FOR RETRO FIT.
3. SAFETY TABS ARE TO BE PLACED 2 PER PANEL EXCLUDING DOOR.
4. TABS ARE ⅜" x 4" x 4½" STEEL PLATE.

< F:\GRAV-DWG\W1700I >

WMI INDUSTRIES Merino, CO 80741

SCALE: NONE	APPROVED BY:	DRAWN BY: K.V.W.
DATE: 8-22-91		REVISED

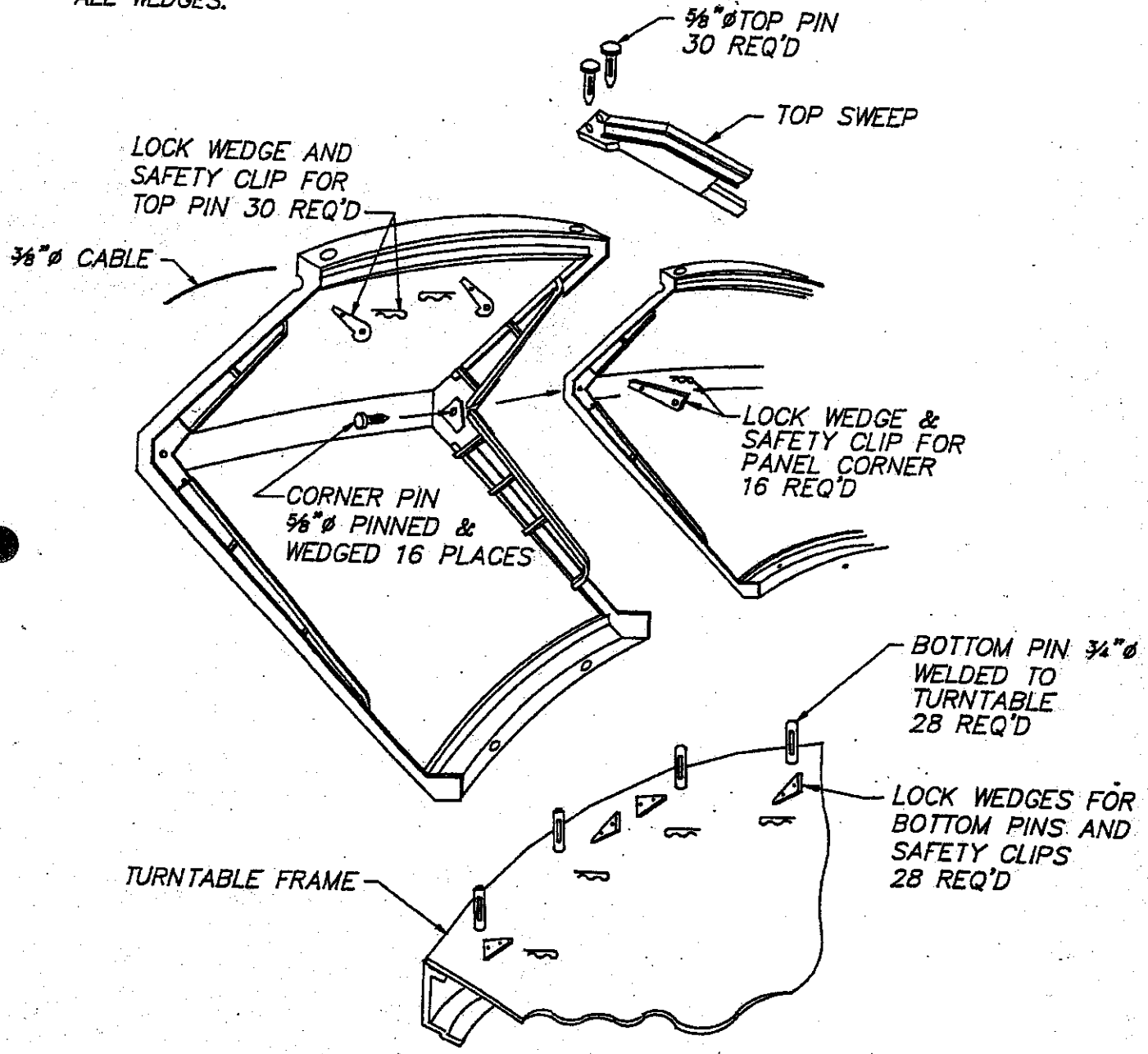
DESCRIPTION: SAFETY INSPECTION & MODIFICATION

EQUIPMENT: GRAVITRON

DRAWING NUMBER: W 170

NOTES:

1. CORNER PIN GOES THRU BOTH PANEL SIDE FRAMES.
2. ALL PINS MUST BE WEDGED SNUGLY.
3. R-CLIPS MUST BE INSERTED INTO ALL WEDGES.



IMPORTANT

ALL PINS, WEDGES, AND R-CLIPS MUST BE IN PLACE BEFORE OPERATION OF RIDE.

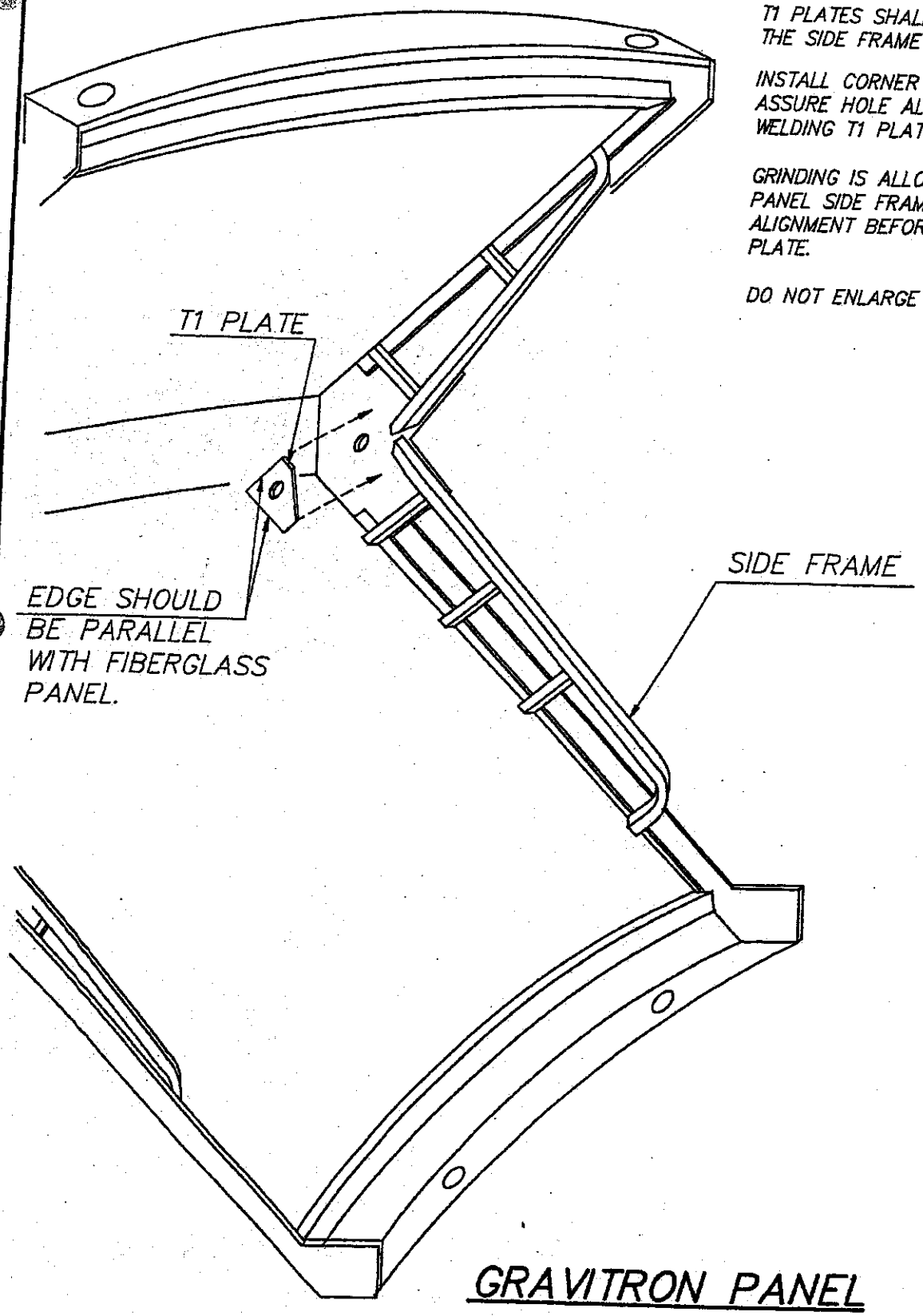
NOTES:

T1 PLATES SHALL BE INSTALLED ON THE SIDE FRAME WITHOUT CHANNEL.

INSTALL CORNER PIN IN PANELS TO ASSURE HOLE ALIGNMENT BEFORE WELDING T1 PLATE IN PLACE!

GRINDING IS ALLOWED ON HOLE IN PANEL SIDE FRAME TO IMPROVE PIN ALIGNMENT BEFORE INSTALLING T1 PLATE.

DO NOT ENLARGE HOLE IN T1 PLATE.

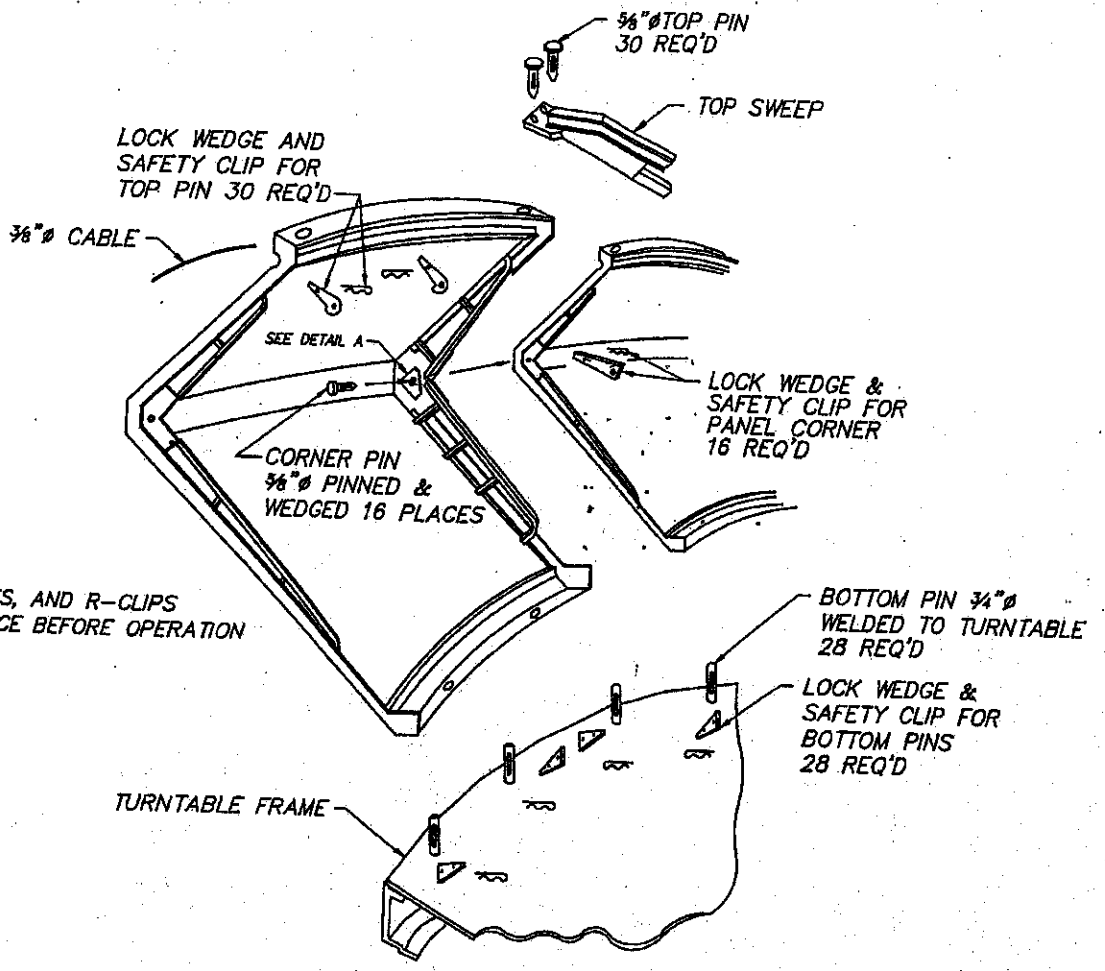


GRAVITRON PANEL

< F:\GRAV-DWG\BULLETIN >

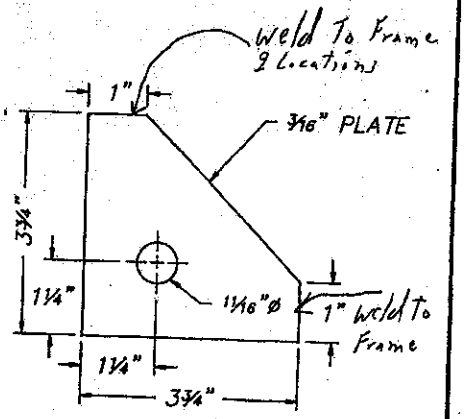
NOTES:

1. CORNER PIN GOES THRU BOTH PANEL SIDE FRAMES.
2. ALL PINS MUST BE WEDGED SNUGLY.
3. R-CLIP MUST BE INSERTED INTO ALL WEDGES.



IMPORTANT

ALL PINS, WEDGES, AND R-CLIPS MUST BE IN PLACE BEFORE OPERATION OF RIDE.

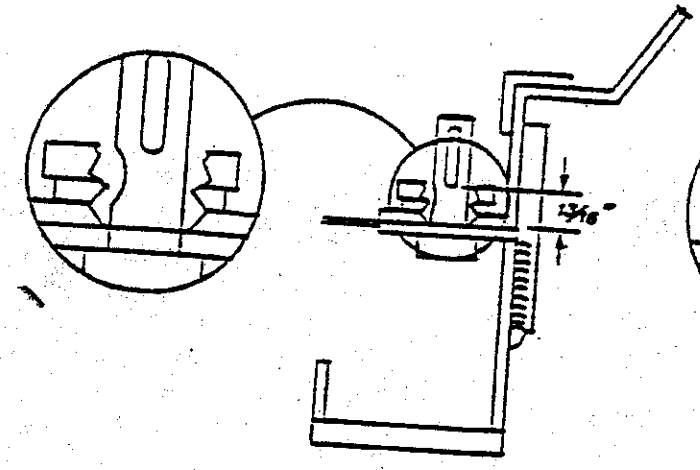


DETAIL A

CORNER PIN REINFORCEMENT
ASTM A514 T-1 STEEL PLATE

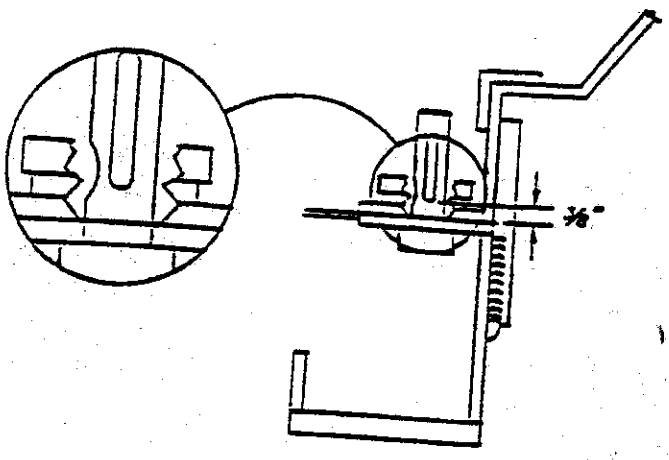
WISDOM INDUSTRIES, Ltd.

FLOOR PIN REPLACEMENT CRITERIA



SHORT SLOT FLOOR PIN
CUT AWAY VIEW

1. THE SHORT SLOT FLOOR PIN SHOULD BE REPLACED IF THE AREA OF WEAR IS GREATER THAN 1/8" DEEP.



LONG SHOT FLOOR PIN
CUT AWAY VIEW

1. THE LONG SLOT FLOOR PIN SHOULD BE REPLACED IF THE AREA OF WEAR IS GREATER THAN 1/16" DEEP.

CRITERIA FOR REPLACEMENT OF GRAVITRON FLOOR PINS
Required on portable rides only
PAGE 1

INSPECTIONS PROCEDURE.

With the ride torn down, cut out a circle of carpeting about ½" to 1" all the way around each pin.

Measure the amount of wear on the side of the floor pin towards the center of the ride. If a groove has been worn in the pin, the groove cannot be more than 1/16 of an inch deep. If it is, the pin must be replaced.

Inspect the bottom of the slot on each side of the pin for cracks. If one side of the slot is cracked the pin must be replaced.

Inspect around the base of the pin for executive rusting. Use a wire brush to clean this first. If the pin is pitted from rusting, it should be replaced. If the pin is OK, be sure to spray a primer on the pin.

CRITERIA FOR REPLACEMENT OF GRAVITRON FLOOR PINS
PAGE 2

After the inspection or replacement of floor pins prime the area that has been welded.

PIN REPLACEMENT PROCEDURE

For all pins in the wings

Cut off the part of the pin that sticks above the floor. Pilot drill the center of the part of the pin that remains in the floor with a ¼' drill. Then drill the rest of the pin out with a ¾" drill.

From under the turntable, use a chisel to knock off the rest of the pinhead.

An alternate method of removing the pin is to use a torch from underneath to cut off the head of the pin.

For pins in the corners of the main turntable.

Cut off the pin from above the floor as described above.

Drill out pin as described above.

Cut a 3" by 4" slot vertically in the outside face of the turntable next to where the pin goes through the floor.

Cut the head of the pin off from under the turntable using either the torch or chisel.

Install the new pin through the hole cut in the face of the turntable.

Weld the head of the new pin to the turntable.

Patch hole cut in face of turntable or make a cover plate.

Alternate method of removing the head of the pin is to use a straight head torch and reach from under the turntable and cut it off.

WISDOM
INDUSTRIES, Ltd.

INSIDE PANEL BOTTOM FRAME STRAP ADDITION

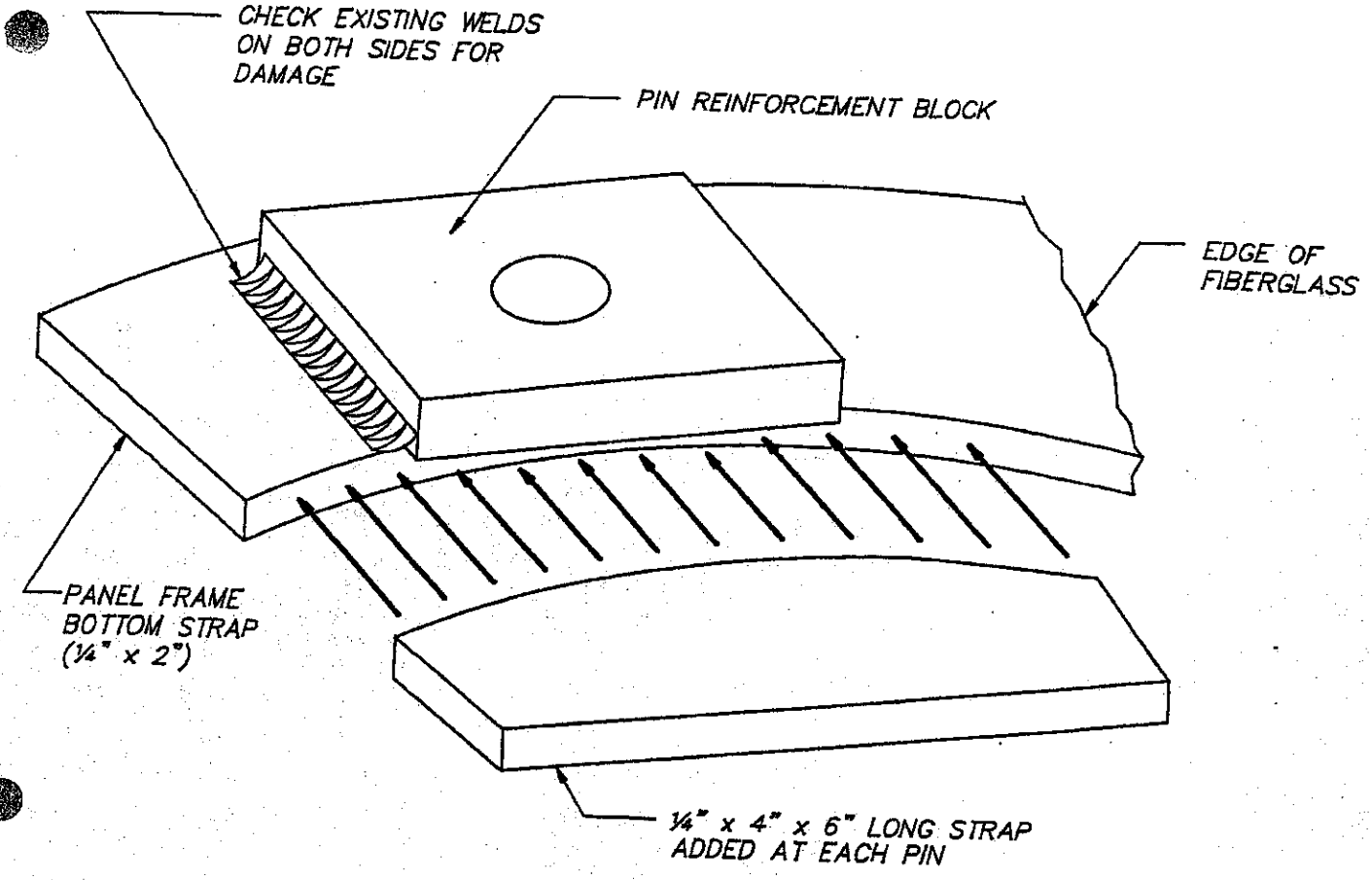
The enclosed drawing for the turntable safety plates also shows the addition of two straps to the bottom of the panel frame. These straps are welded to the ¼" X 2" strap at the locations indicated on the panel drawing. Butt-weld these straps to the existing strap and to the 3/8" reinforcement plate. You will need 30 straps and they are added to all panels except the door panel.

The strap and weld will give an indication if the weld on the 3/8" reinforcement block has broken and will show if the strap is working under the 3/8" reinforcement block.

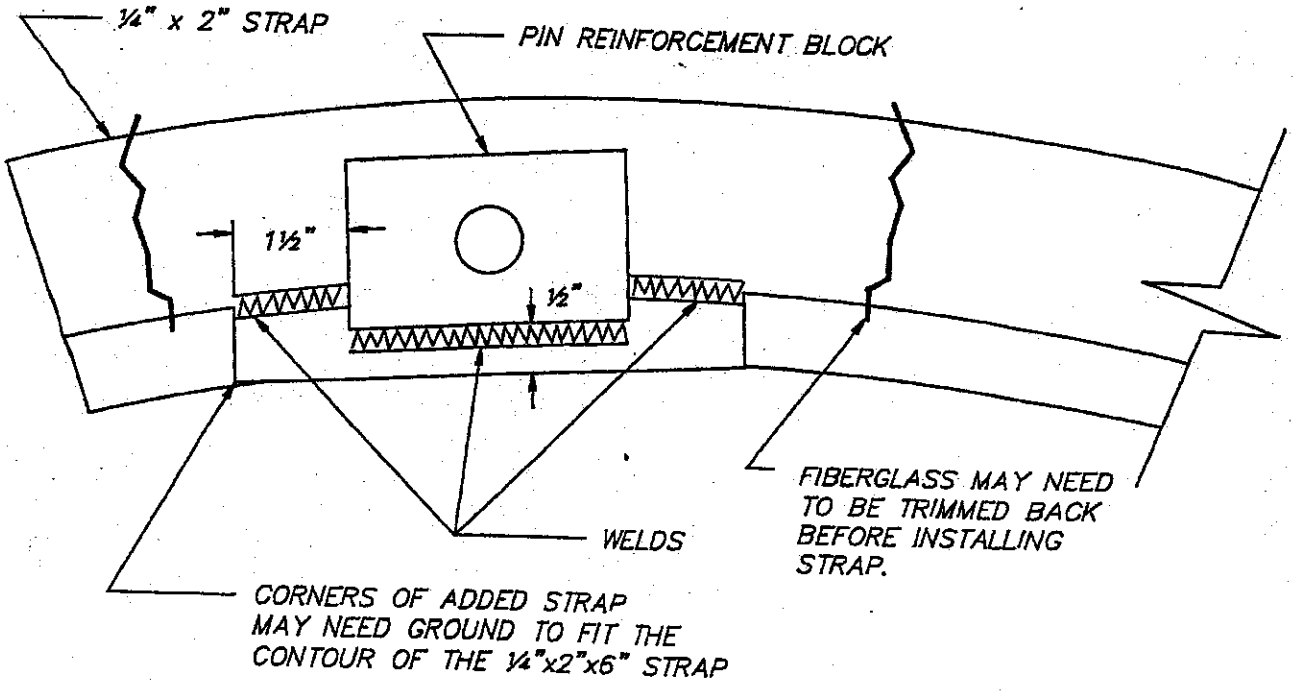
Use caution welding on the panel frame. Excessive heat can set the panel on fire. Use water to cool the weld.

WARNING: Never weld on the panel and then immediately leave. Sparks from welding on the panel or a hot frame could start a fire several minutes after you have finished welding.

It is a good idea to wait until the frame has cooled to the touch before leaving the ride unattended.


CHECK EXISTING WELDS ON BOTH SIDES FOR DAMAGE
PIN REINFORCEMENT BLOCK
EDGE OF FIBERGLASS
PANEL FRAME BOTTOM STRAP (¼" x 2")
¼" x 4" x 6" LONG STRAP ADDED AT EACH PIN

TOP VIEW


¼" x 2" STRAP
PIN REINFORCEMENT BLOCK
1½"
½"
FIBERGLASS MAY NEED TO BE TRIMMED BACK BEFORE INSTALLING STRAP.
WELDS
CORNERS OF ADDED STRAP MAY NEED GROUND TO FIT THE CONTOUR OF THE ¼"x2"x6" STRAP

ADD THE ENCLOSED STICKERS TO YOUR GRAVITRON.

ONE STICKER SHOULD BE PLACED NEXT TO THE RIDE START BUTTON ON THE OPERATORS CONSOLE.

ONE STICKER SHOULD BE PLACED NEXT TO THE DRUM SWITCH THAT OPERATES THE PONY MOTOR DURING SETUP SO THAT THE OPERATOR CAN SEE THE STICKER WHILE OPERATING THE DRUM SWITCH.

ADD THE ENCLOSED STICKERS TO YOUR GRAVITRON.

ONE STICKER SHOULD BE PLACED NEXT TO THE RIDE START BUTTON ON THE OPERATORS CONSOLE.

ONE STICKER SHOULD BE PLACED NEXT TO THE DRUM SWITCH THAT OPERATES THE PONY MOTOR DURING SETUP SO THAT THE OPERATOR CAN SEE THE STICKER WHILE OPERATING THE DRUM SWITCH.

ADD THE ENCLOSED STICKERS TO YOUR GRAVITRON.

ONE STICKER SHOULD BE PLACED NEXT TO THE RIDE START BUTTON ON THE OPERATORS CONSOLE.

ONE STICKER SHOULD BE PLACED NEXT TO THE DRUM SWITCH THAT OPERATES THE PONY MOTOR DURING SETUP SO THAT THE OPERATOR CAN SEE THE STICKER WHILE OPERATING THE DRUM SWITCH.

ADD THE ENCLOSED STICKERS TO YOUR GRAVITRON.

ONE STICKER SHOULD BE PLACED NEXT TO THE RIDE START BUTTON ON THE OPERATORS CONSOLE.

ONE STICKER SHOULD BE PLACED NEXT TO THE DRUM SWITCH THAT OPERATES THE PONY MOTOR DURING SETUP SO THAT THE OPERATOR CAN SEE THE STICKER WHILE OPERATING THE DRUM SWITCH.

Gravitron / Starship Stickers

DANGER
STAND BACK 15 FEET
WHEN RAISING OR LOWERING WING.
SERIOUS INJURY OR DEATH WILL occur.

EACH WING DECAL

console

CAUTION

BEFORE STARTING RIDE

CHECK	For loose objects on the floor or console.
CHECK	That all customers are leaning back against the seats.
CHECK	That the door is clear while opening or closing.
CHECK	That no one is smoking.
CHECK	That no one is standing in or near the console.

OPERATING RIDE

DO NOT	Run ride with door open.
DO NOT	Allow anyone to turn upside down or sideways.
DO NOT	Allow anyone to throw objects while the ride is running.
DO NOT	Open door more than 6 inches to position ride at steps.
DO NOT	Open door unless it is clear.

IN EMERGENCY

RELEASE RIDE BUTTON.

PUT ON HAND BRAKE HARD UNTIL RIDE STOPS.

OPEN DOOR OR ESCAPE HATCH.

trap door, console & door switch

!!WARNING!!
NEVER
Turn ride with trap door open

— WARNING —
– TO PREVENT ENTRAPMENT –
DO NOT START DOOR DOWNWARD UNLESS DOORWAY IS CLEAR
MOUNT PLACARD ADJACENT TO CONTROL STATION
CONSOLE

tires

IMPORTANT

MAXIMUM INFLATION
35 PSI

FOUR TURNTABLE TIRES

WMI INDUSTRIES, LTD.

September 11, 1991

GRAVITRON ADDITIONAL INSPECTION NOTICE

One customer has notified us that after installing the panel safety plates to the wings on his GRAVITRON turntable that he has had several cracks develop on the vertical face of his turntable. We do not know if this is coincidence or if it maybe caused by shrinkage of the steel after the welding. We would like to have you inspect the vertical face of the turntable daily after installing the plates for the next several weeks.

If cracks are found you can "V" out the crack and reweld it.

If you find that cracks are developing please let us know. If you have any questions please feel free to call Jerry or me.

Sincerely,

Victor Wisdom

P. O. BOX 5000 — STERLING, COLORADO 80751 — 303-522-7515 — TELEX - 45-0012

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.

P.O. BOX 5000 STERLING, COLORADO

WMI INDUSTRIES, LTD.

8-12-93

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.

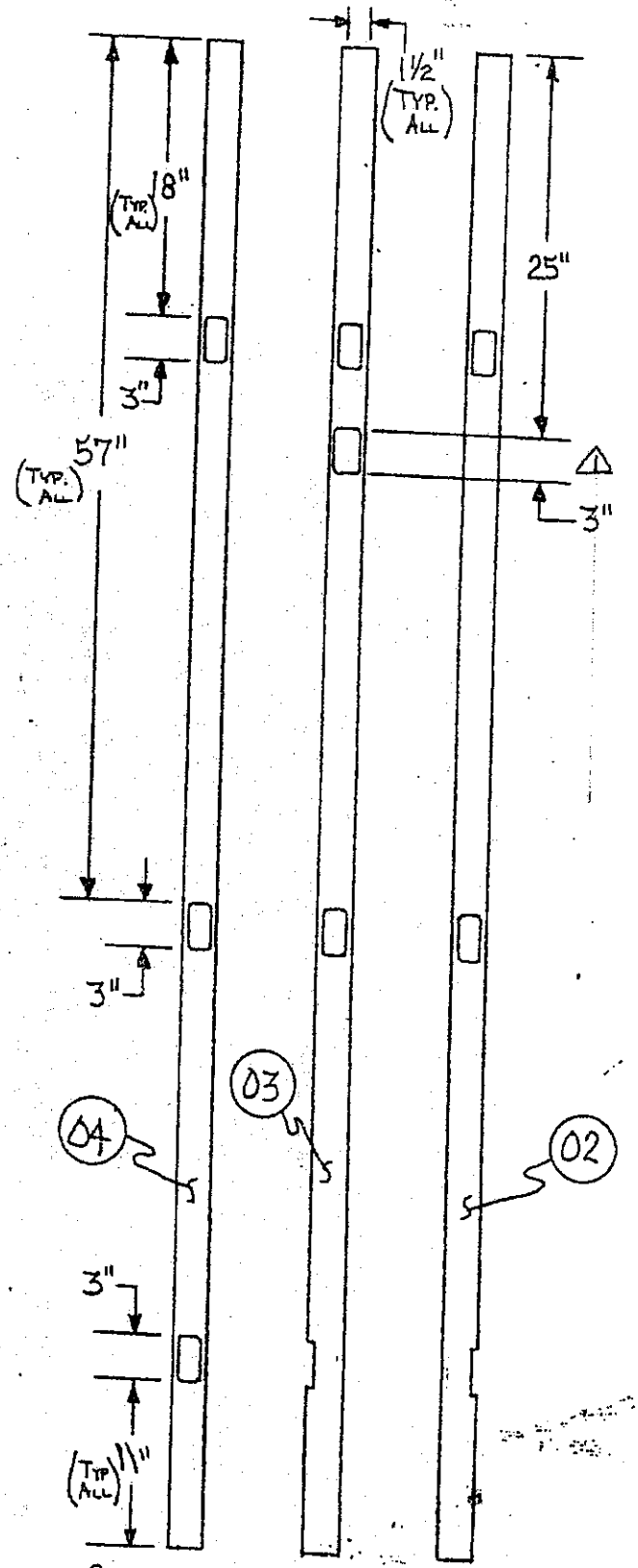
DANGER!

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.

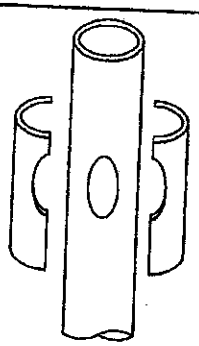
3. Inspect the area where the console posts are welded to the floor of the turntable.
4. Inspect the area where the console posts are welded to the console. Where the 1" framework is welded to the posts about 18" above the floor of the turntable.
5. Remove the white plastic cups and lights that are next 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.

P.O. BOX 5000 STERLING, COLORADO

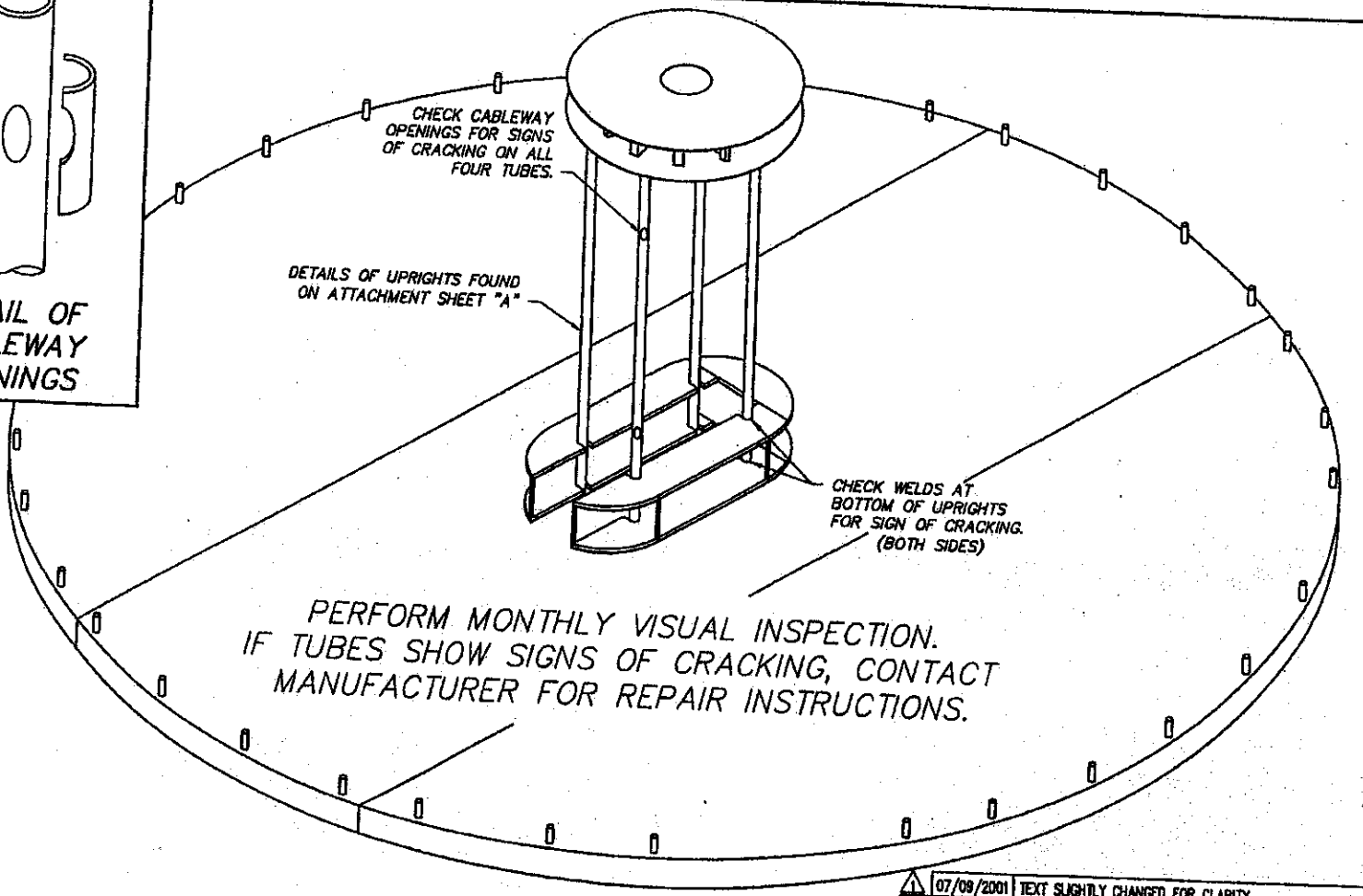
ATTACHMENT "A"



CUT OUT DETAILS - SUPPORT PIPES



DETAIL OF CABLEWAY OPENINGS



PERFORM MONTHLY VISUAL INSPECTION.
IF TUBES SHOW SIGNS OF CRACKING, CONTACT MANUFACTURER FOR REPAIR INSTRUCTIONS.

1

ISOMETRIC VIEW OF TURNTABLE & CONTROL BOOTH

1	07/09/2001	TEXT SLIGHTLY CHANGED FOR CLARITY	SMY

WISDOM INDUSTRIES Marino, CO 80741

SCALE: N.T.S.	APPROVED BY:	DRAWN BY: MFK	
DATE: 08-25-95		REVISED	
DESCRIPTION: CENTER CONSOLE INSPECTION			
EQUIPMENT: GRAVITRON/STARSHIP 2000		DRAWING NUMBER: W-01	

JUL 09, 2001 - 09:43:49 < L:\GRAV-DWG\3W-01.DWG >

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.

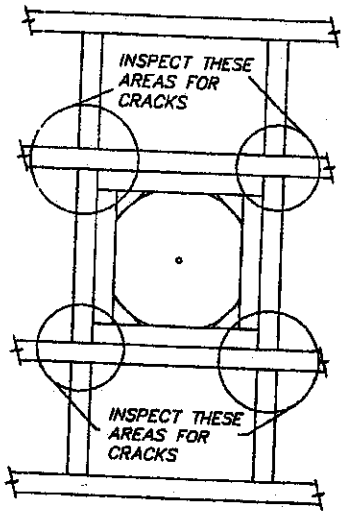
Access to the area to be inspected is under the ride at the center of the trailer.

See drawing for areas to inspect.

DANGER!

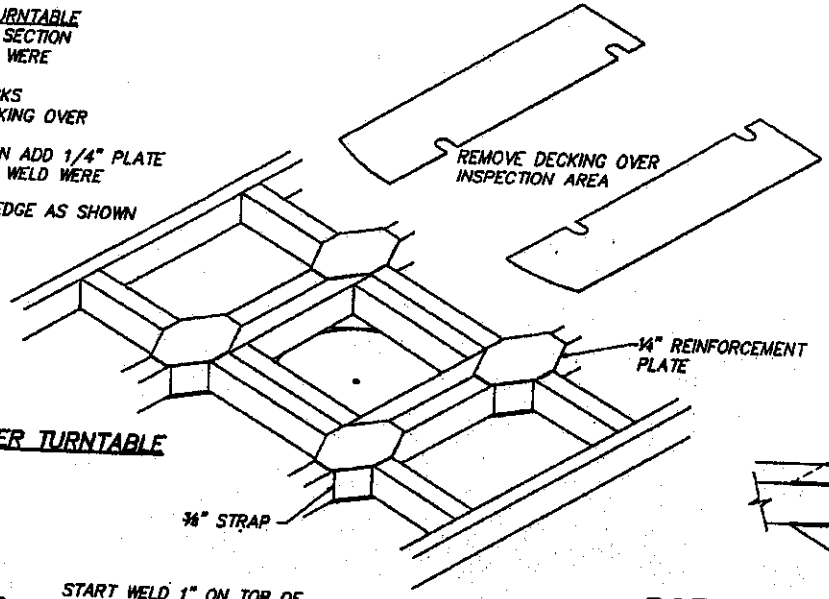
TURN OFF THE MAIN POWER TO THE RIDE AND PADLOCK THE MAIN DISCONNECT HANDLE SO THAT THE POWER CAN NOT BE TURNED ON WHILE UNDER THE RIDE.
OPERATION OF THE RIDE OR TURNING ON OF THE FAN WHILE UNDER THE RIDE WILL CAUSE SERIOUS INJURY OR DEATH.

P. O. BOX 5000 — STERLING, COLORADO 80751

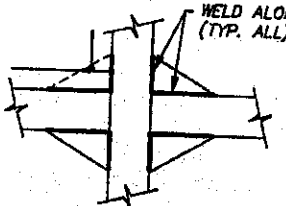


INSPECTION DIRECTIONS FOR TURNTABLE

1. INSECT BOTTOM OF CENTER SECTION OF TURNTABLE FOR CRACKS WERE NOTED.
2. IF ANY INDICATION OF CRACKS GO INSIDE AND REMOVE DECKING OVER INSPECTION AREA.
3. WELD ALL CRACKS AND THEN ADD 1/4" PLATE ON ALL FOUR CORNERS AND WELD WERE NOTED.
4. WELD ⅜" STRAP ½" FROM EDGE AS SHOWN

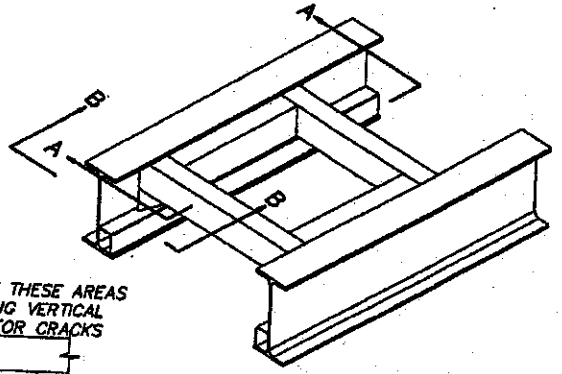


BEARING BOX ON CENTER TURNTABLE

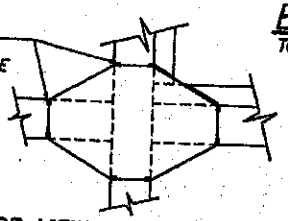


BOTTOM VIEW REINF. PLATE

TOP PLATE SHOWN (TOP VIEW BOTTOM PLATE)



START WELD 1" ON TOP OF TUBE THEN WELD PLATE TO TUBE ON THE BOTTOM OF PLATE THEN STOP WELD 1" FROM EDGE OF TUBE ON TOP.

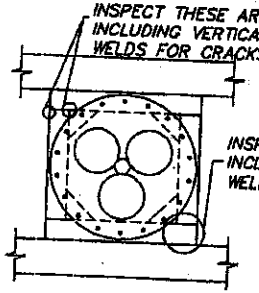


TOP VIEW REINF. PLATE

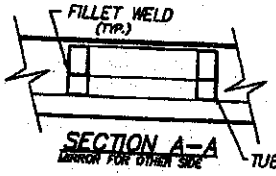
TOP PLATE SHOWN (BOTTOM VIEW FOR BOTTOM PLATE)

SIDE VIEW REINF. PLATE

NOTE:
YOU CAN ONLY BOX IN 3 SIDES.

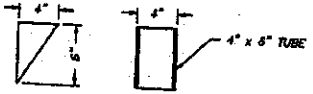


BEARING BOX ON TRAILER

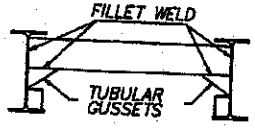


SECTION A-A

MIRROR FOR OTHER SIDE



TUBULAR GUSSETT



SECTION B-B

WISDOM INDUSTRIES Merino, CO 80741			
SCALE: ½"=1'-0"	APPROVED BY:	DRAWN BY: HICKAM	
DATE: 8/31/00		REVISED	
DESCRIPTION: BEARING BOX INSPECTION			
EQUIPMENT: GRAVITRON / MAGIC CARPET		DRAWING NUMBER: INSPECT	

AUG 31, 2000 - 08:29:05 < L:\GRAV-DWG\INSPECT.DWG >

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!

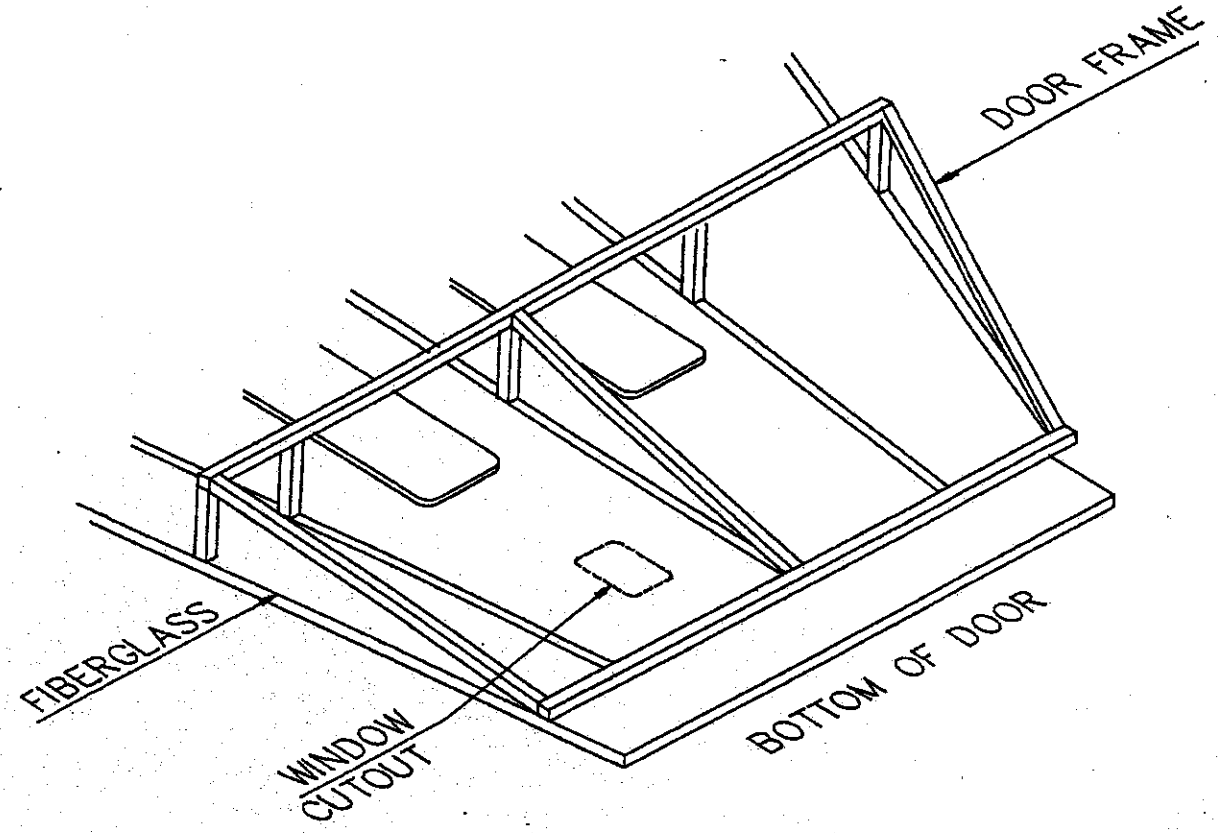
BE SURE TO CUT THE CORNERS OF THE CUTOUT ROUNDED AS IN THE PATTERN. THIS WILL HELP TO PREVENT CRACKS IN THE FIBERGLASS STARTING IN THE CORNERS.

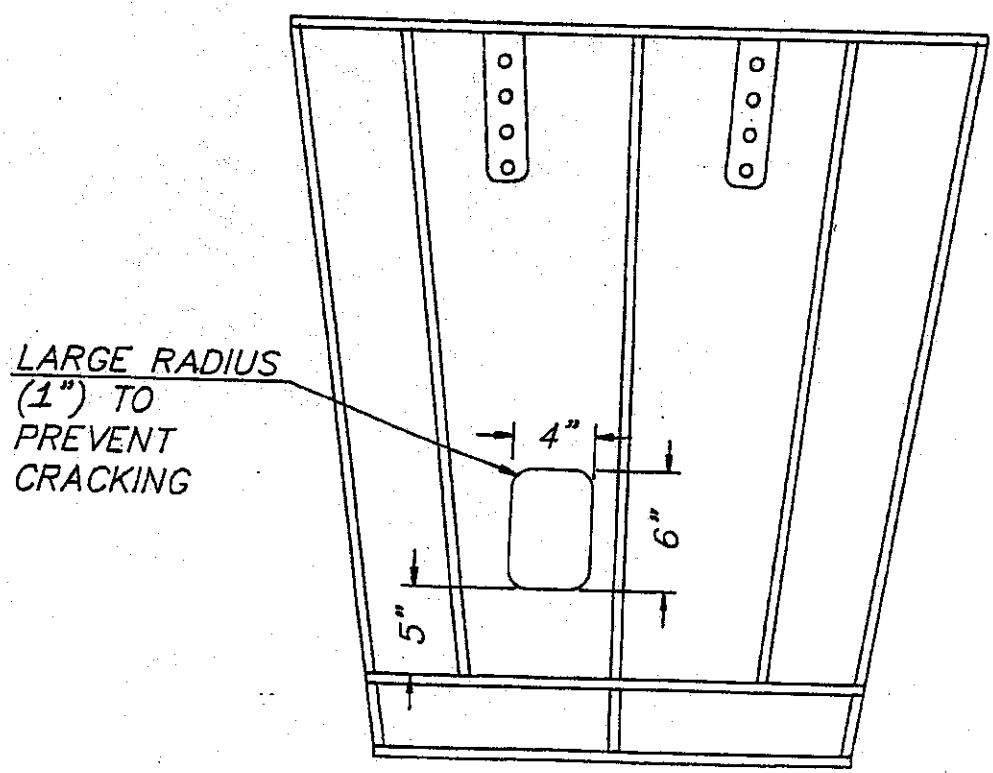
5. Cover the inside of the hole with a clear or smoked plastic to prevent someone from putting their head or arm inside the ride.

DANGER!

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

P. O. BOX 5000 STERLING, ILL

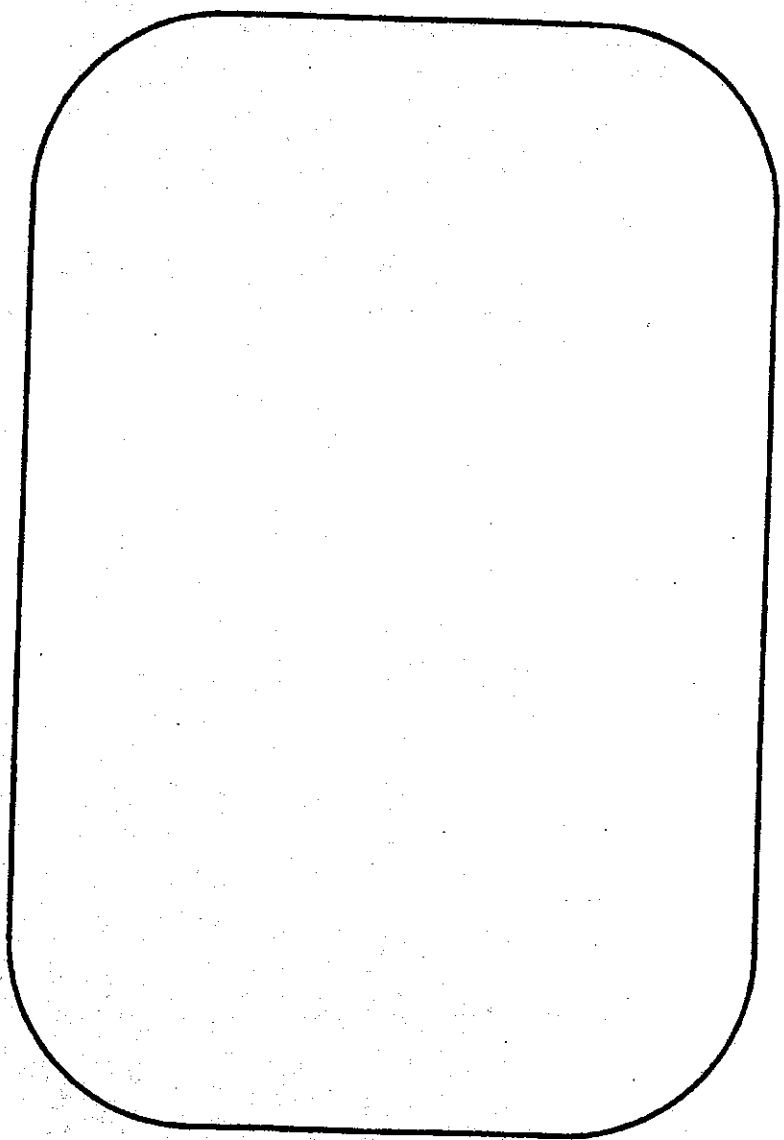




MAR 23, 1992 - 07:47:30 < F:\GRAV-DWG\DOOR >

WISDOM INDUSTRIES Merino, CO 80741

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 LEXAN MEASURING 8 x 6 AND SHOULD BE ATTACHED ON THE INSIDE OF THE PANEL BY MEANS OF BOLTS, SCREWS, OR POP-RIVOTS (FROM THE OUTSIDE - IN).



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!

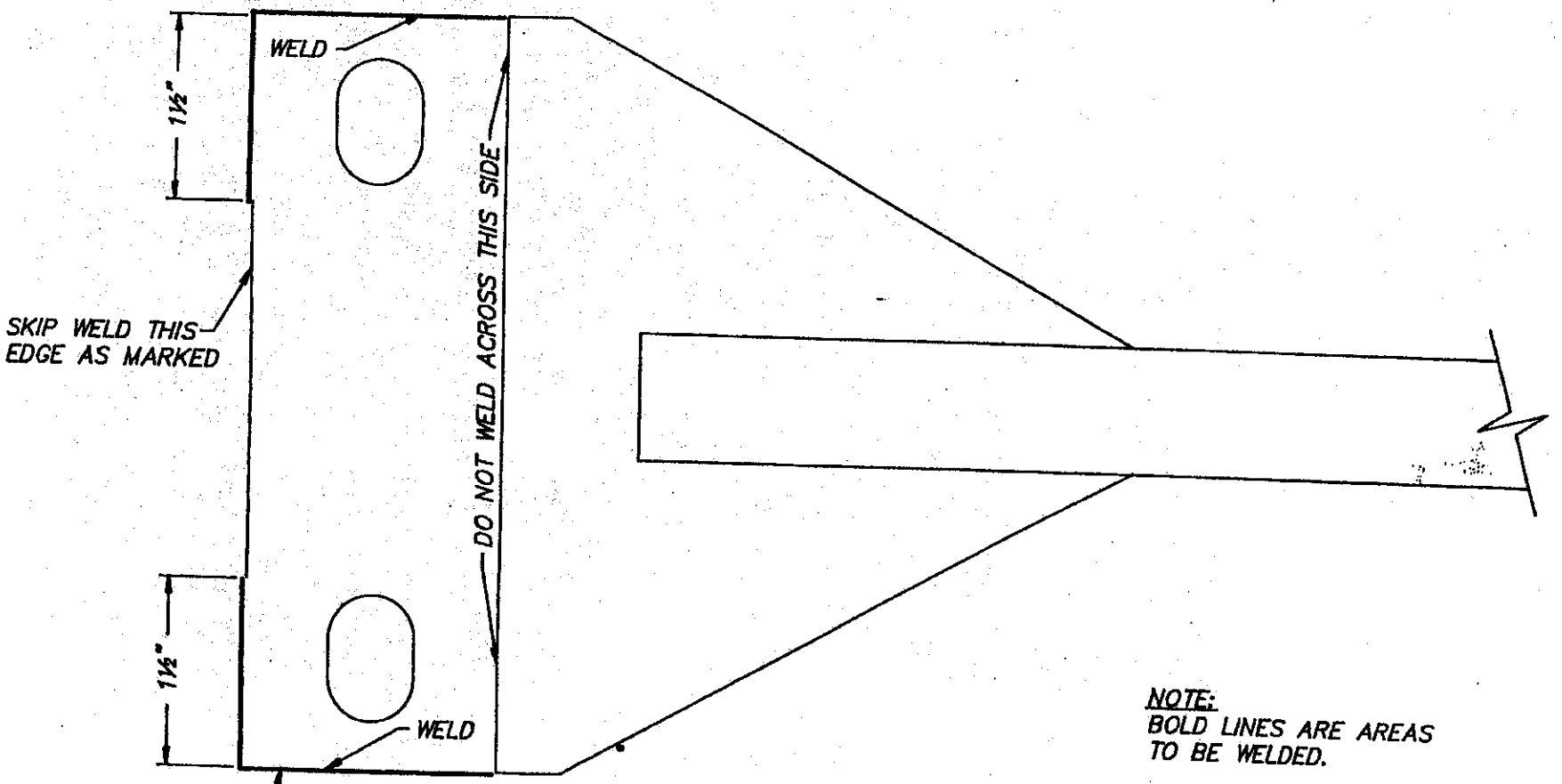
DO NOT OVER TIGHTEN THE TOP SAFETY CABLE. THE EARS THAT THE TURN BUCKLES ARE ATTACHED TO CAN TEAR OUT OF THE TUBING.

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: GRAVITRON	DRAWING NUMBER SAFETY

JUL 29, 1993 – 12:17:20 < H:\GRAV-DWG\SAFETY >

WMI INDUSTRIES, LTD.

8-12-93

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.

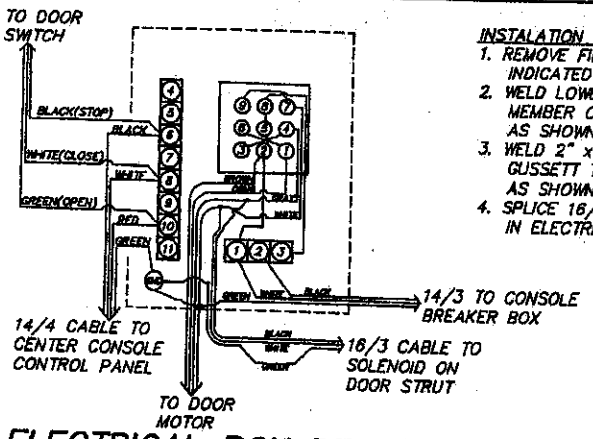
2. Weld the brackets to the side of the door frame as shown on the enclosed drawing.

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.

P. O. BOX 5000 — STERLING, COLORADO 80751 — 303-522-7515 — FAX 303-522-2902

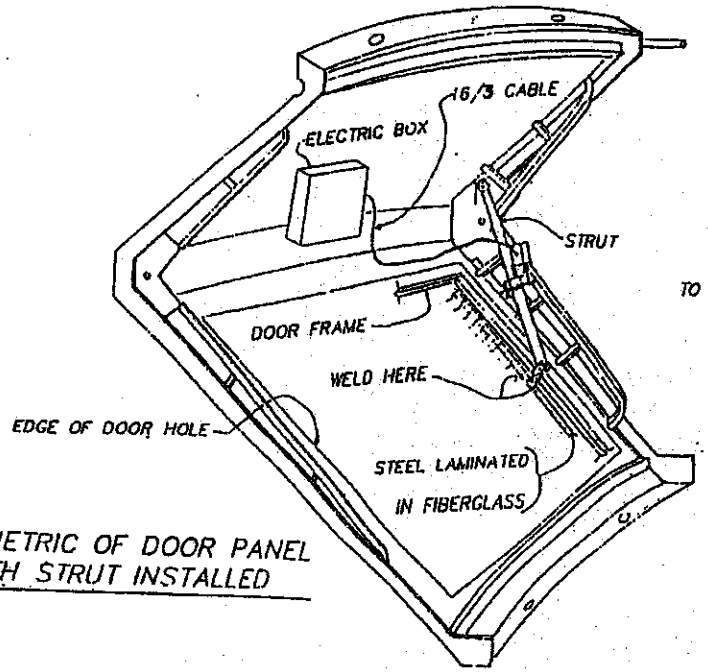


ELECTRICAL BOX DETAIL

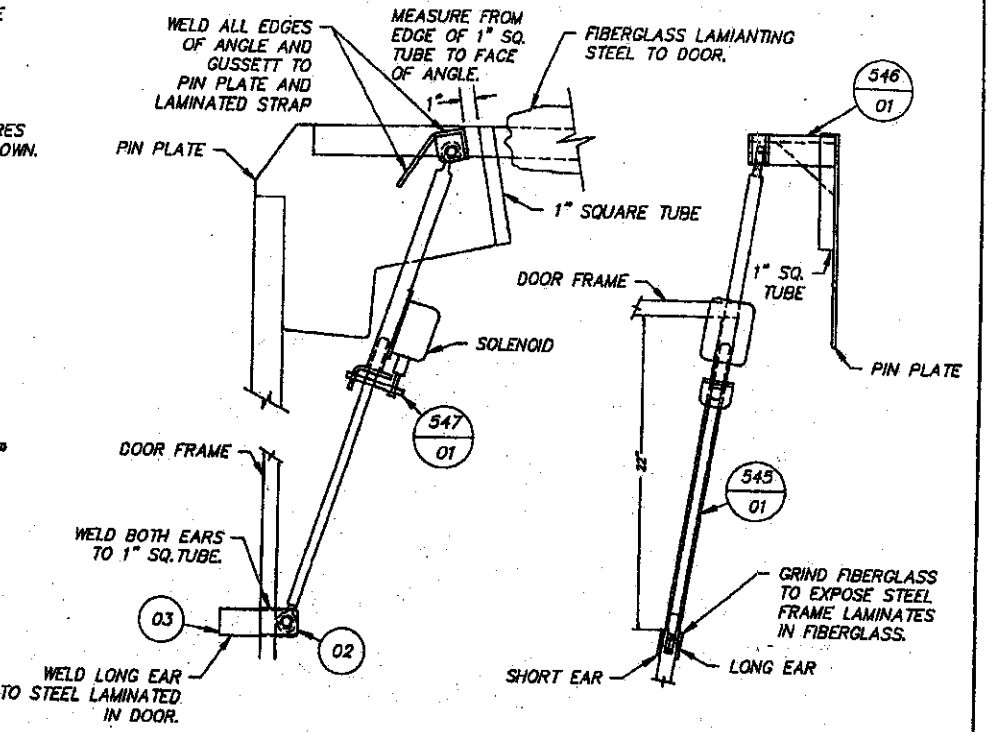
NOT TO SCALE

INSTALATION NOTES:

1. REMOVE FIBERGLASS FROM INDICATED AREA.
2. WELD LOWER EARS TO SIDE MEMBER OF DOOR FRAME AS SHOWN.
3. WELD 2" x 2" ANGLE & GUSSETT TO PIN PLATE AS SHOWN.
4. SPLICE 16/3 CABLE TO WIRES IN ELECTRICAL BOX AS SHOWN.



ISOMETRIC OF DOOR PANEL WITH STRUT INSTALLED



WISDOM INDUSTRIES Merino, CO 80741			
SCALE: 1½"=1'-0"	APPROVED BY:	DRAWN BY: MFK	
DATE: 04-24-95		REVISED	
DESCRIPTION: DOOR SAFETY STRUT			
EQUIPMENT: GRAVITRON		DRAWING NUMBER	

APR 24, 1995 - 13:38:18 < GRAVI >

WISDOM INDUSTRIES, Ltd.

8-12-93

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 on 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 ½" of the main turntable.
9. If the difference is greater than ¾" 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.

✓ **<u>WARNING!</u> BE SURE TO TIGHTEN THE PINS AND WEDGES BEFORE OPERATING THE RIDE.**

WMI INDUSTRIES, LTD.

8-12-93

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.

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WMI INDUSTRIES, LTD.

RE: GRAVITRON-STARSHIP 2000 Trap Door

The GRAVITRON is equipped with a trap door accessible from the inside. The purpose of this door is as an emergency exit. An emergency exit is required by the California State Fire Marshall as a second means of egress because the ride is totally enclosed during operation, holds more than 40 passengers, and should the main door jam closed. Because of this, we installed the trap door.

Some states have differing codes. Some jurisdictions have required this door to be locked during operation and others have required it to be unlocked during operation.

We have provided a latch that can be padlocked or bolted if required by local codes or during set up and tear down. It can be unlocked to serve as a second means of egress during operation if so required.

In any case, the ride must not be turned while the trap door is open.

Compliance with various local and state statutes, state inspector requirements, and adequate operator training are the responsibility of the individual ride owners.

WMI INDUSTRIES, LTD.

ADD THE ENCLOSED STICKERS TO YOUR GRAVITRON.

ONE STICKER SHOULD BE PLACED NEXT TO THE RIDE START BUTTON ON THE OPERATORS CONSOLE.

ONE STICKER SHOULD BE PLACED NEXT TO THE DRUM SWITCH THAT OPERATES THE PONY MOTOR DURING SETUP SO THAT THE OPERATOR CAN SEE THE STICKER WHILE OPERATING THE DRUM SWITCH.

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WMI INDUSTRIES, LTD.

8-12-93

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.

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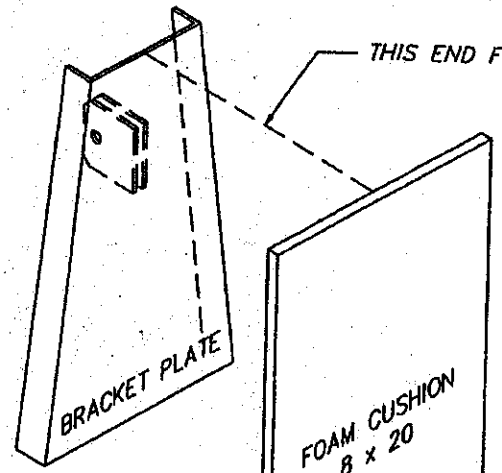

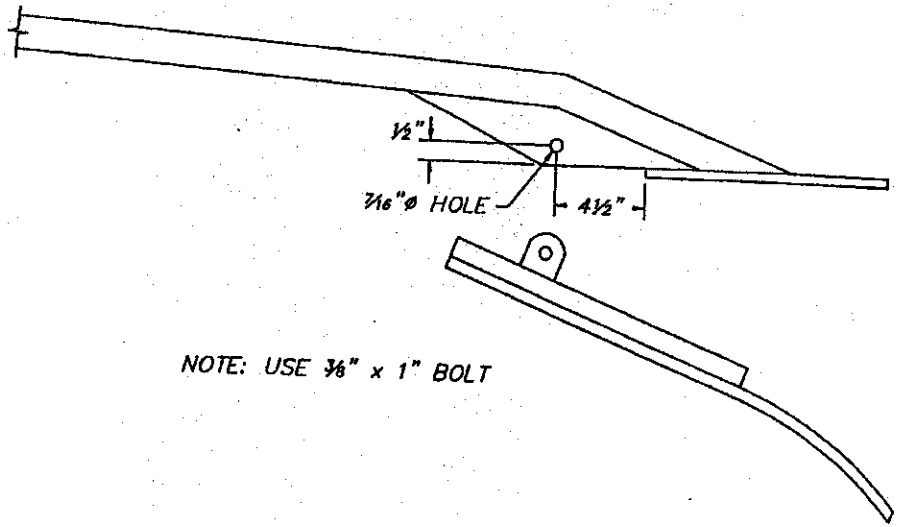

NOTE: USE ⅜" x 1" BOLT

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

WMI INDUSTRIES Merino, CO 80741

SCALE: 3"=1'-0"	APPROVED BY:	DRAWN BY: L.M.B.	
DATE: 7-10-90		REVISED	
DESCRIPTION: SWEEP CUSHION BRACKET			
EQUIPMENT: GRAVITRON		DRAWING NUMBER: HBG LI 635	

WMI INDUSTRIES, LTD.

August 28, 1991

MANDATORY INSPECTION AND SAFETY PLATE ADDITION FOR THE GRAVITRON

Dear Sir:

You have probably heard of the accident that occurred on a GRAVITRON in Missouri. It is hard to tell what exactly what happened since we have not been allowed to see the equipment to date. Looking at photos of the ride on the night of the accident it appears that two of the six pins used to fasten the Gravitron panels together were accidentally not installed when the ride was setup in Missouri. Enclosed is a drawing similar to the one in your operation manual showing the location of the corner pins.

Until we can see the ride, the following inspection must be performed on your GRAVITRON.

Check that the floor pins are not cracked in the area of the slot where the wedge goes through. Check the strap that the floor pin goes through for cracks especially next to the 1/2 inch strap that is welded to the bent strap at the base of the panel. the fiberglass may need to be cut back next to the welds on the 1/2" reinforcement plate to allow better inspection of the welds.

Check the condition of your floor pins for cracks or wear.

Check that the corner pins are installed around the circumference of the ride. There are 16 of these pins and wedges behind the panels. See the drawing for the location and direction of installation. Do not over tighten the wedges. They only need to be snug and can install an R-clip in one of the holes in the wedge.

Check that the four 7/8" platform safety bolts are installed under the turntable.

We are also requiring the following modification be made to your GRAVITRON. The enclosed drawing shows the addition of two plates to the turntable on your GRAVITRON. We will provide the plates or you can have them made locally. They are 4-1/2" tall by 4" wide and should be a minimum of 3/8" thick. It is not known whether these plates are necessary but we feel that even if the floor pins should break and the corner pins are not installed the panel will not swing out. This modification is preliminary and maybe changed after we are able to view the GRAVITRON that was involved.

If any cracks are found report them immediately to us. for instructions on repair. If you have any questions about the inspection or installation of the panel safety plates call Jerry or me.

Sincerely,
Victor Wisdom

P. O. BOX 5000 — STERLING, COLORADO 80751 — 303-522-7515 — TELEX - 45-0012

WMI INDUSTRIES, LTD.

02-15-1991

Xxxxxxxx Xxxxxxxx
NO OWNER LISTED
Xxxxxxxxxx
Xxxxxxxxxx
Xxxxxxxx, XX XXXXXX-XXXX

Bulletin number: G0001 Your ride serial number:

Subject: Graviton seat cushion modification.
Seat truss modification.

Dear Xxxxxxxx:

Enclosed are drawings showing the modifications that are required on the couches and seat trusses of the GRAVITRON. The modifications will allow the passengers arm, hand, or ankle to be caught between the couches without hurting the passenger. The reason for this modification is that ride operators are moving the couches to different positions in the ride without adjusting them for an even gap between each couch. Some of the couches are ending up with little or no gap between them and a large gap between others. This causes the passengers hand or arm to be pinched between the couches that are close together. The modified couch will end up the same final width as the couch you have now but 1 inch on each side will be padding.

There are three ways that you can do the modification to the couches. The first way, we will provide at no charge the rigid plastic pad that will pad the side of the seat cushion on each seat. You will need to remove the upholstery, trim 1 inch from each side of the wood back board, attach the rigid plastic pad to each side, and staple the original upholstery. You will also have to notch the seat main back board 1 inch on each side and reassemble the couch to the frame.

The second method, we would sell you 45 new assembled seat cushions. All that you will have to do is cut the main back board in the areas indicated on the drawing and reassemble to the couch frame. The cost for 45 assembled seat cushions is $2,567.00.

The third method is, that we would sell you 45 seat cushions and 45 back boards, less the top and bottom plastic pieces and the seat roller frame. This would cost $3,461.00. You would have to remove the plastic pieces from your existing back boards and fasten them to the new back boards. Then fasten the couch to the couch frame. The above prices our our cost so this would be an excellent time to do this if you are going to replace your upholstery this year.

The modification to the seat support trusses requires that the small gussets on the top edge of the seat support trusses must be cut off. This modification must be done immediately.

If your ride has had both modifications already done to it or if you no longer own the ride note this on the compliance form enclosed. Return this form within 30 days. If you have any questions please feel free to call me.

Sincerely,

Victor Wisdom
WMI INDUSTRIES LTD.

O. BOX 5000 — STERLING, COLORADO 80751 303-522-7515