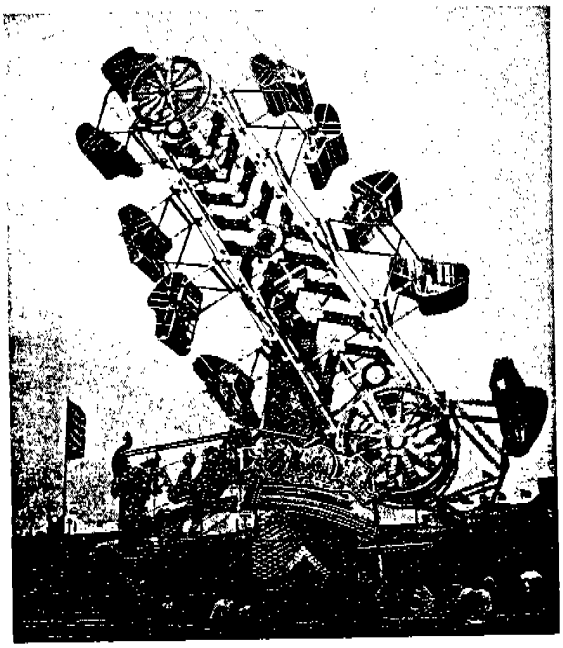
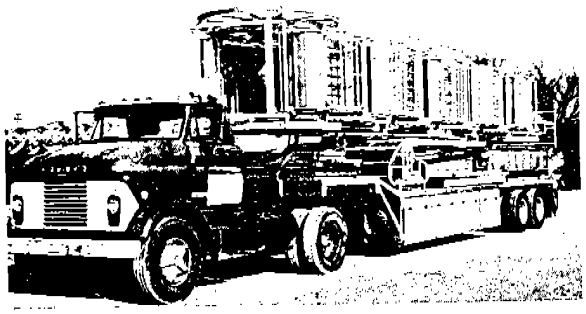
SPECIFICATION

MFG: CHANCE RIDES, INC.
NAME: ZIPPER
TYPE: NON-KIDDIE

This ride conforms with all applicable ASTM amusement ride standards in effect on the date of manufacture.

ZIPPER





TRAILERING

Height	13 ft. 6 in.
Width	8 ft.
Length	42 ft.
Total weight	43,000 lbs.
Rear axle weight	28,000 lbs.
Kingpin weight	15,000 lbs.
Tire size	10:00 x 20 (12-ply)

SEATING

Number of seats	12
Maximum number of passengers per seat	3 adults or 4 children
Maximum passenger weight per seat	510 lbs.
Maximum total number of passengers	36 adults or 48 children
Maximum total passenger weight	6,120 lbs.
Minimum passenger height	42 inches (unaccompanied by adult)
Loading	2 seats simultaneously
Maximum unbalance	6 adults (1,020 lbs.)

PERFORMANCE

Direction of travel	
Boom	Clockwise or counter-clockwise
Cable	Clockwise or counter-clockwise
Ride speed	Boom - 7½ rpm Cable - 4 rpm (3.2 ft./sec.)
Ride duration (maximum)	2½ min.
Ride duration (recommended)	2 min.
Maximum wind speed (operating)	35 mph
Maximum wind speed (static)	80 mph

MAXIMUM RIDE WEIGHT (empty) ..... 43,000 lbs.

BOOM DRIVE ..... Electro-hydraulic

CABLE DRIVE ..... Electric

POWER REQUIREMENTS

Total	37 kW
Cable drive motors	7 kW
Pump drive motor	18 kW
Lights	12 kW
Minimum/Maximum line voltage	208/230

PUMP DRIVE MOTOR

Type	208 Y/460 volt, 3 phase, 60 Hz
Horsepower rating	25

CABLE DRIVE MOTORS

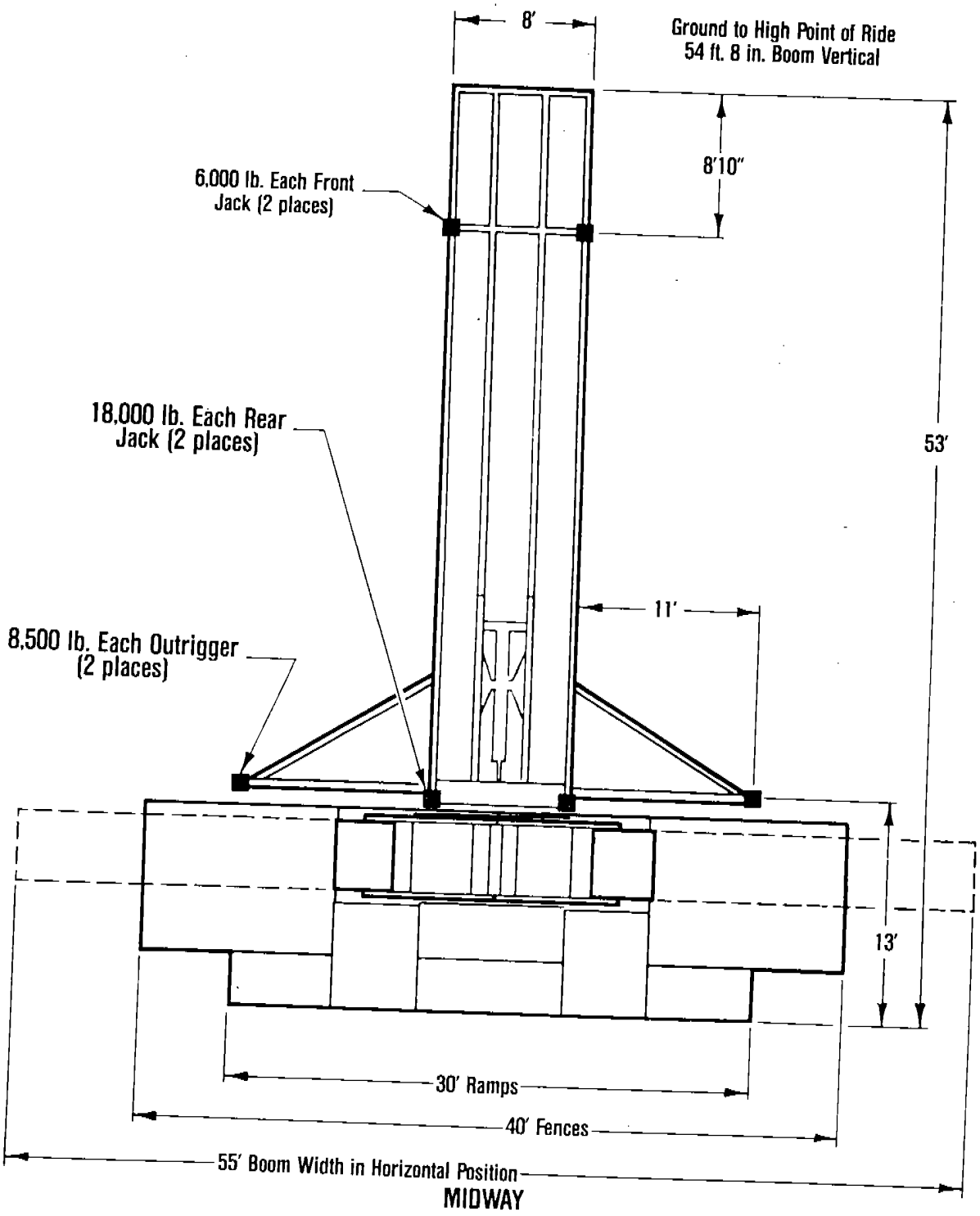
Quantity	4
Type	208 Y/460 volt, 3 phase, 60 Hz
Horsepower rating (each)	2.5

LIGHTING ..... 110 volt incandescent

STANDARD LEAD-IN CABLE

Size	2/4 type G
Length	90 ft.

Because we try to improve every Chance product, these specifications are subject to change without notice.



MIDWAY

RIDE CLEARANCE DIMENSIONS

Frontage Width	40 ft.
Depth	54 ft.
Maximum Width	57 ft. at 27 ft. high
Maximum Height	56 ft.

ZIPPER

Ride Serial Number _____ Owner _____ Date _____

FIELD INSPECTION POINTS

1. ( ) Inspect blocking and leveling

2. ( ) Inspect lock nuts on leveling jacks.

3. ( ) Inspect hydraulic valves for leveling jacks.

4. ( ) Inspect cable leads, electrical connections and grounding per local code.

5. ( ) Inspect platforms and fences for proper installation.

6. ( ) Inspect main drive cables for proper length adjustment and condition (Bulletin 05-160).

7. ( ) Inspect seat support axle assemblies for angularity relative to track - MUST BE 90° (Bulletin 05-160).

8. ( ) Inspect seat support axle assemblies, trolley wheels, cable clamps, etc. Check for reinforcing plates on axle frames (Bulletins B05-0201, B05-0210-00, B05-0296-00 and B05-0350-00).

9. ( ) Inspect cross cables - 3 SETS MINIMUM (Bulletins 05-160 and B05-0201-00).

10. ( ) Inspect track and track spacers (Bulletins B05-0297-00 and B05-0303-00).

11. ( ) Inspect all seat support structures for cracks, proper pins and hair pins, and proper installation (Bulletins 05-157B and B05-0344-00).

12. ( ) Inspect all seat pivot bearings (Bulletin 05-160).

13. ( ) Inspect all seat attach clevises (Bulletins B05-0228-00 and B05-0258-0A).

14. ( ) Inspect lap bars and padding (Bulletins B05-0205-0A and B05-0347-00).

15. ( ) Inspect door hinges, hinge bolts. and door alignment in seat frame (Bulletin B05-0215-0A).

16. ( ) Inspect locking and latching mechanisms in all seats. Check expiration date on all spring latches (Bulletins B05-0142-0C, 05-157B and B05-0257-00).

17. ( ) Inspect all sheave hub attach points for loose bolts (Bulletin B90-0148-0C).

18. ( ) Inspect operation of boom and cable brakes.

19. ( ) Check speed of boom drive - 8 rpm maximum.

20. ( ) Check speed of cable drive sheaves - 17 rpm maximum.

21. ( ) Check ride for excessive vibration.

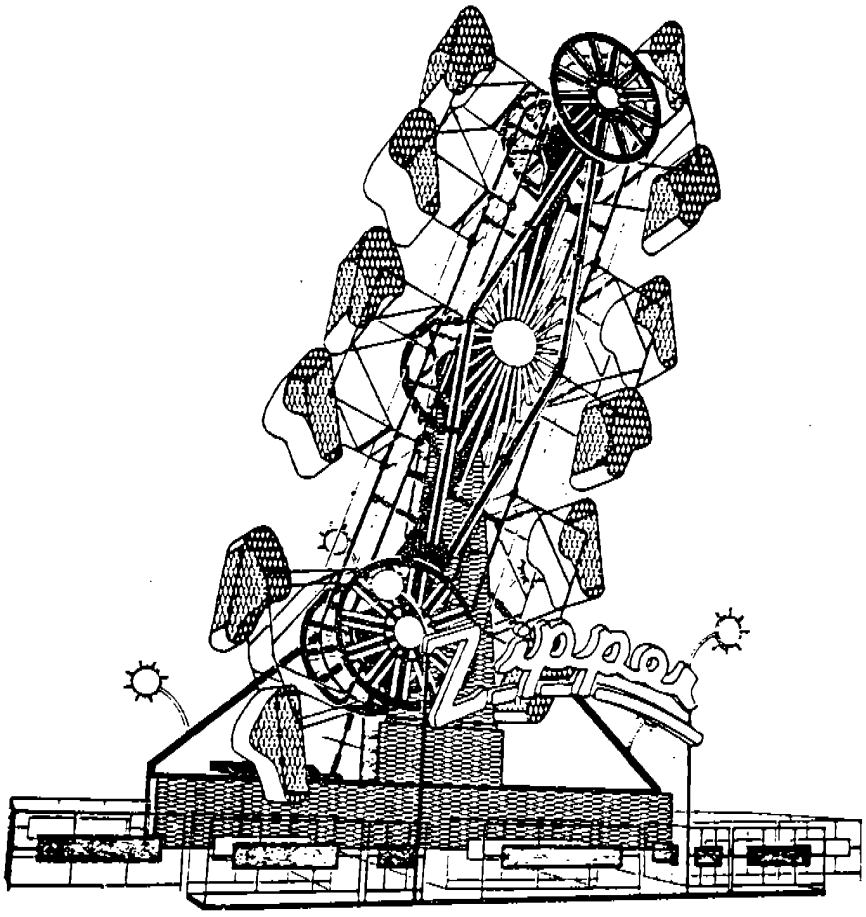
22. ( ) Inspect structure for cracks, bad welds, etc. Inspect boom and spindle area for cracks (Bulletins B05-0359-00, A106R1057-A and B106R1080-0).

23. ( ) Inspect electrical circuit for short circuits, bad wires, etc.

24. ( ) Inspect for hydraulic leaks.

25. ( ) Inspect operating controls (Bulletin B05-0254-00).

26. ( ) Inspect overall appearance of ride for cleanliness and general overall upkeep.



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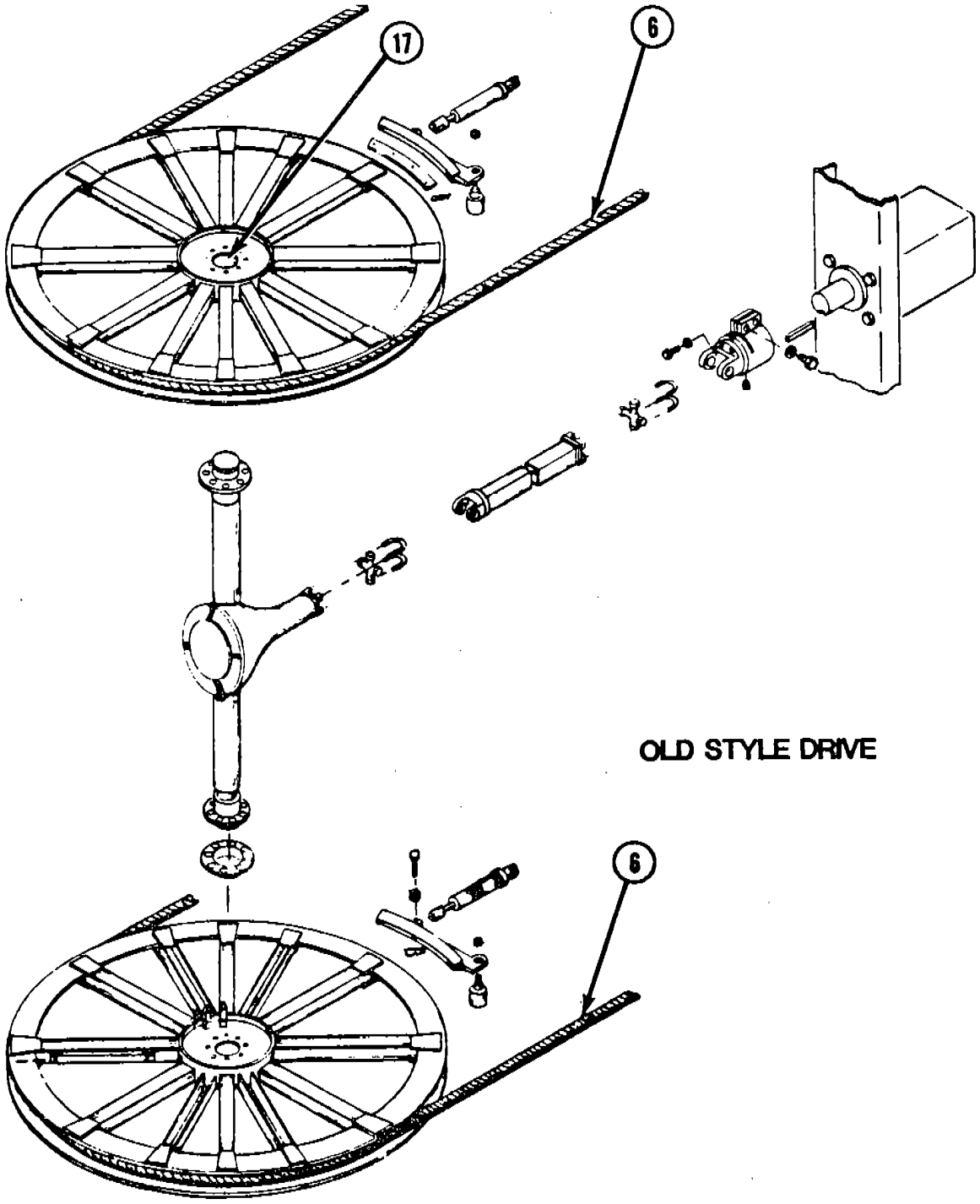
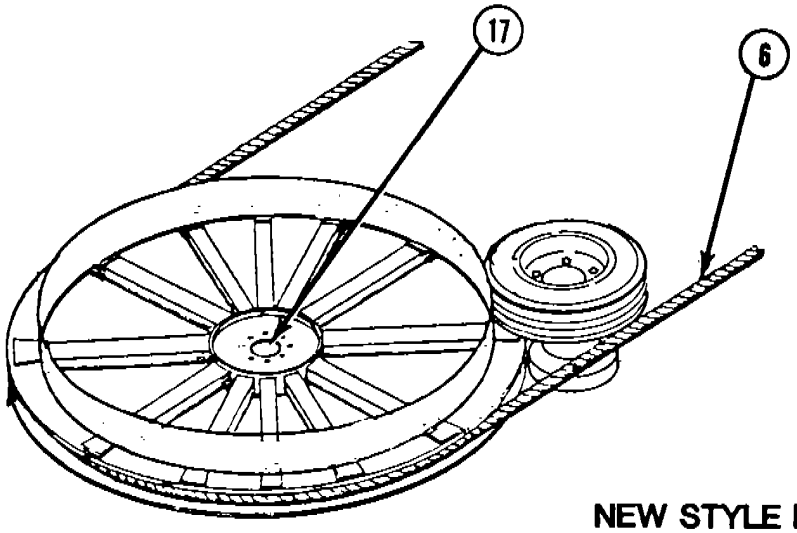


OLD STYLE DRIVE

6. ( ) Inspect main drive cables for proper length adjustment and condition (Bulletin 05-160).

17. ( ) Inspect all sheave hub attach points for loose bolts (Bulletin B90-0148-0C).



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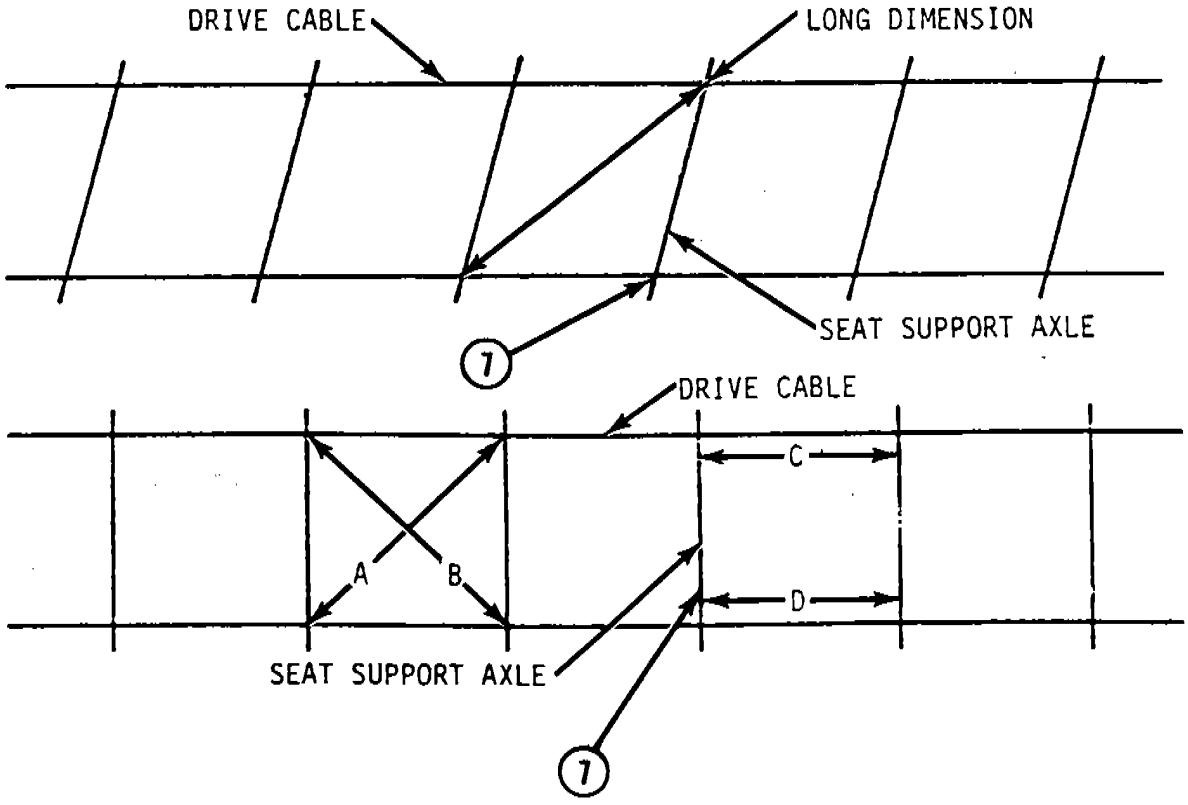
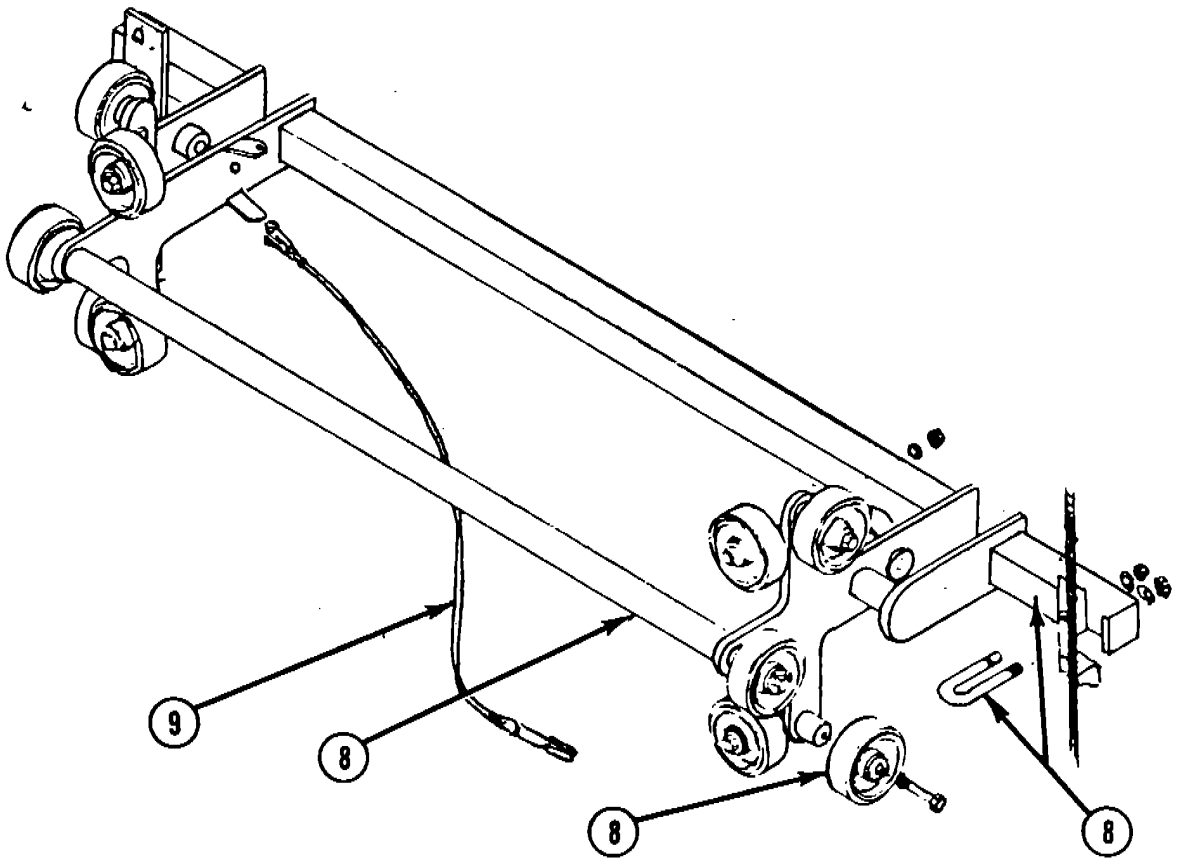
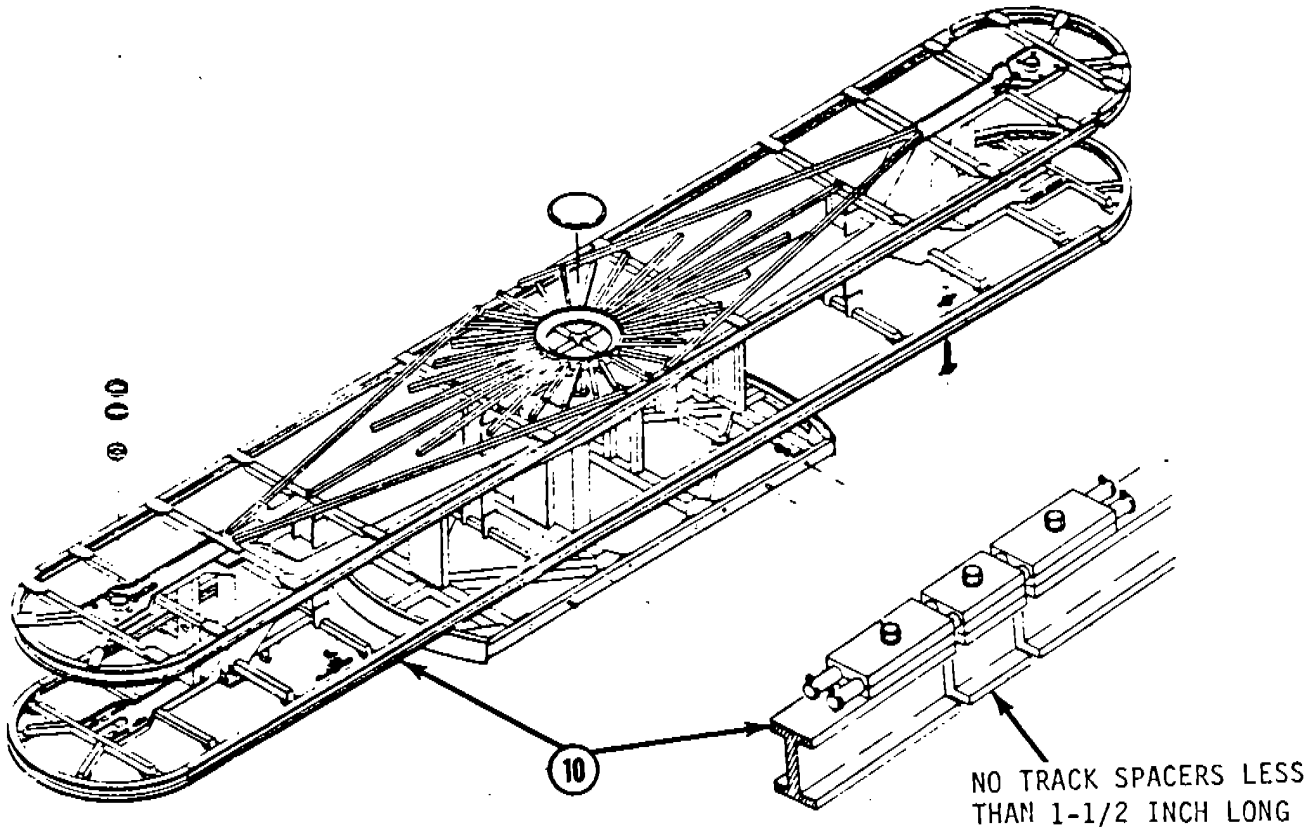


7. ( ) Inspect seat support axle assemblies for angularity relative to track - MUST BE 90° (Bulletin 05-160).

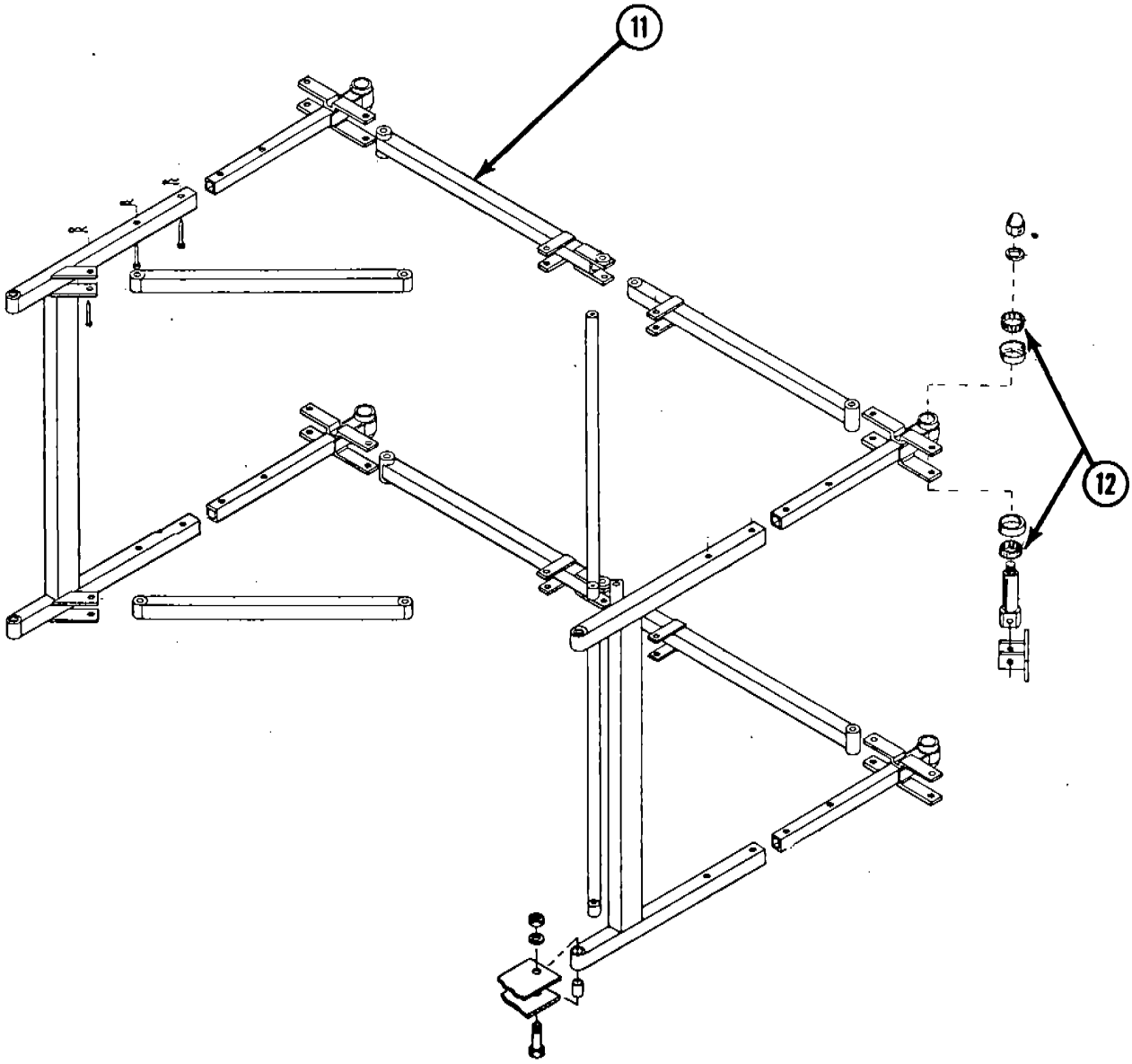


8. ( ) Inspect seat support axle assemblies, trolley wheels, cable clamps, etc. Check for reinforcing plates on axle frames (Bulletins B05-0201, B05-0210-00, B05-0296-00 and B05-0350-00).

9. ( ) Inspect cross cables - 3 SETS MINIMUM (Bulletins 05-160 and B05-0201-00).

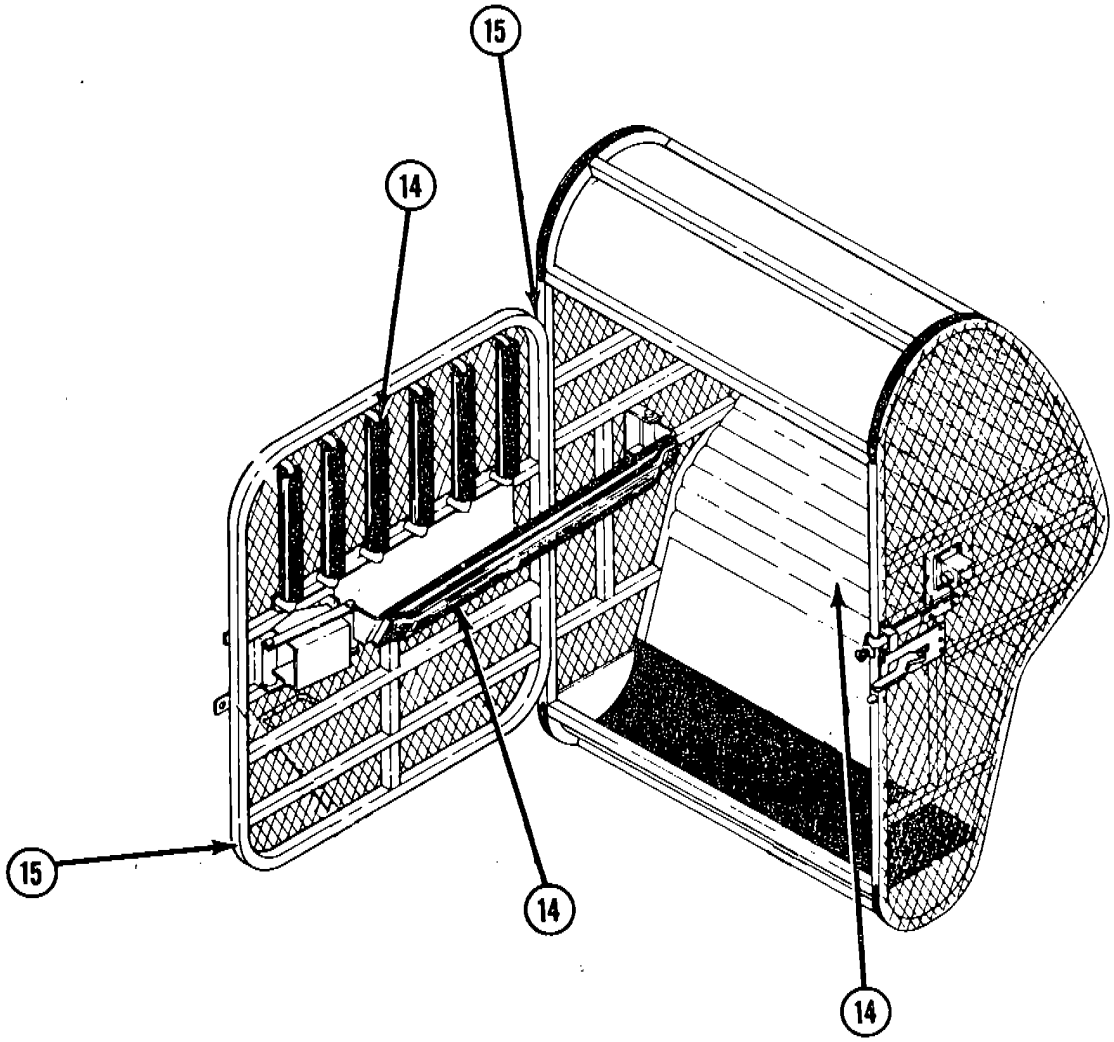


10. ( ) Inspect track and track spacers (Bulletins B05-0297-00 and B05-0303-00).



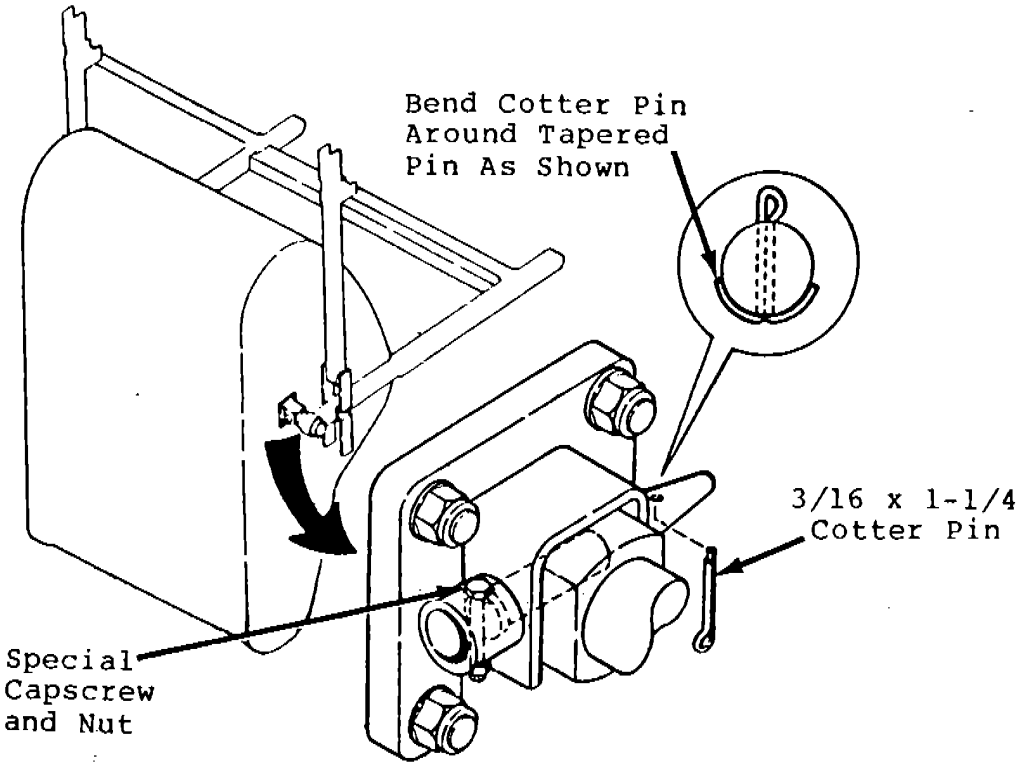
11. ( ) Inspect all seat support structures for cracks, proper pins and hair pins, and proper installation (Bulletins 05-157B and B05-0344-00).

12. ( ) Inspect all seat pivot bearings (Bulletin 05-160).

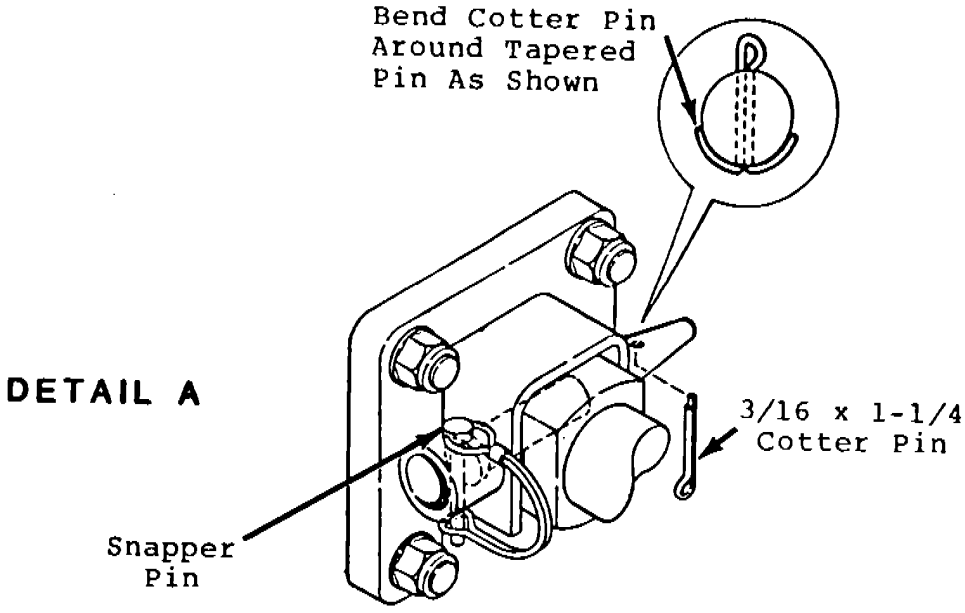


14. ( ) Inspect lap bars and padding (Bulletins B05-0205-0A and B05-0347-00).

15. ( ) Inspect door hinges, hinge bolts. and door alignment in seat frame (Bulletin B05-0215-0A).



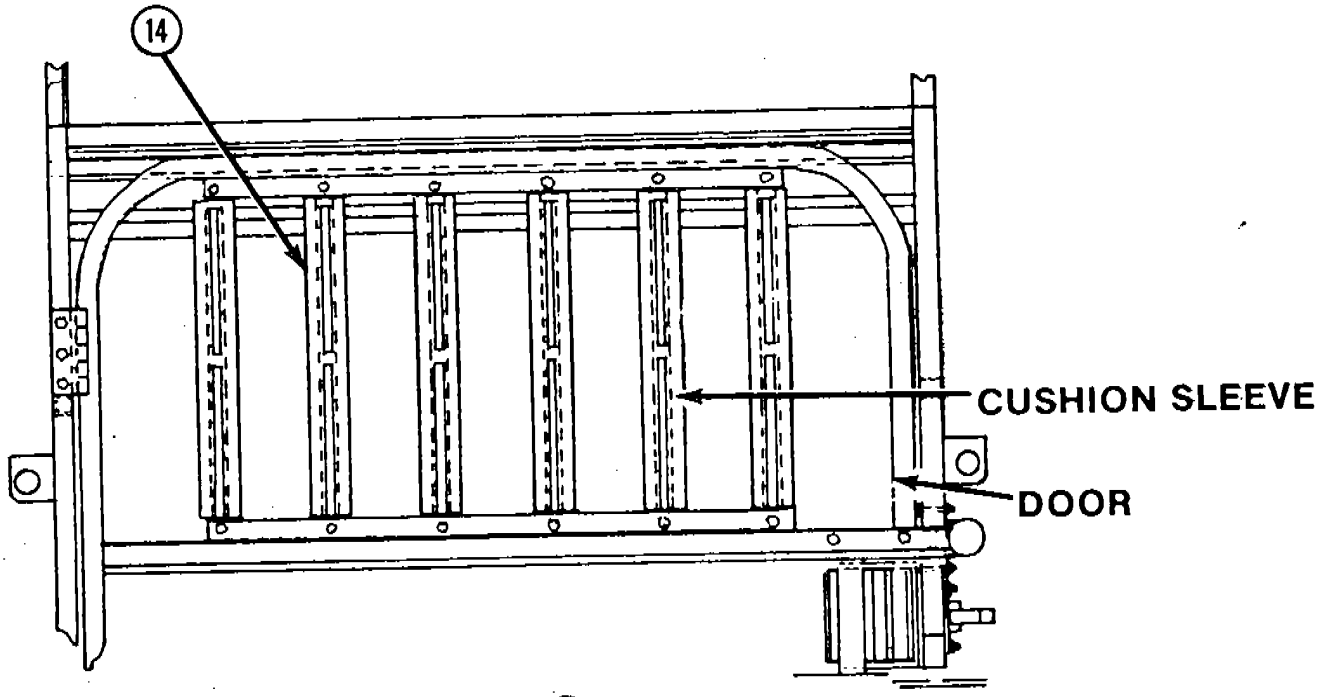
SEATS WHICH RACK IN PLACE ON BOOM



DETAIL A

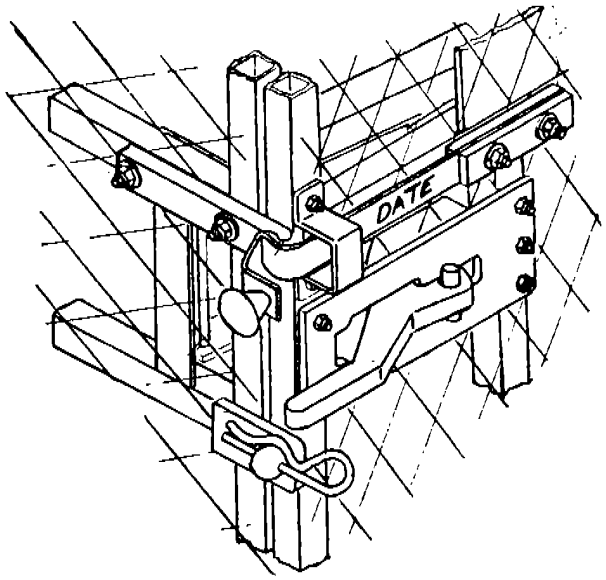
SEATS WHICH RACK ON TRAILER DECK

13. ( ) Inspect all seat attach clevises (Bulletins B05-0228-00 and B05-0258-0A).

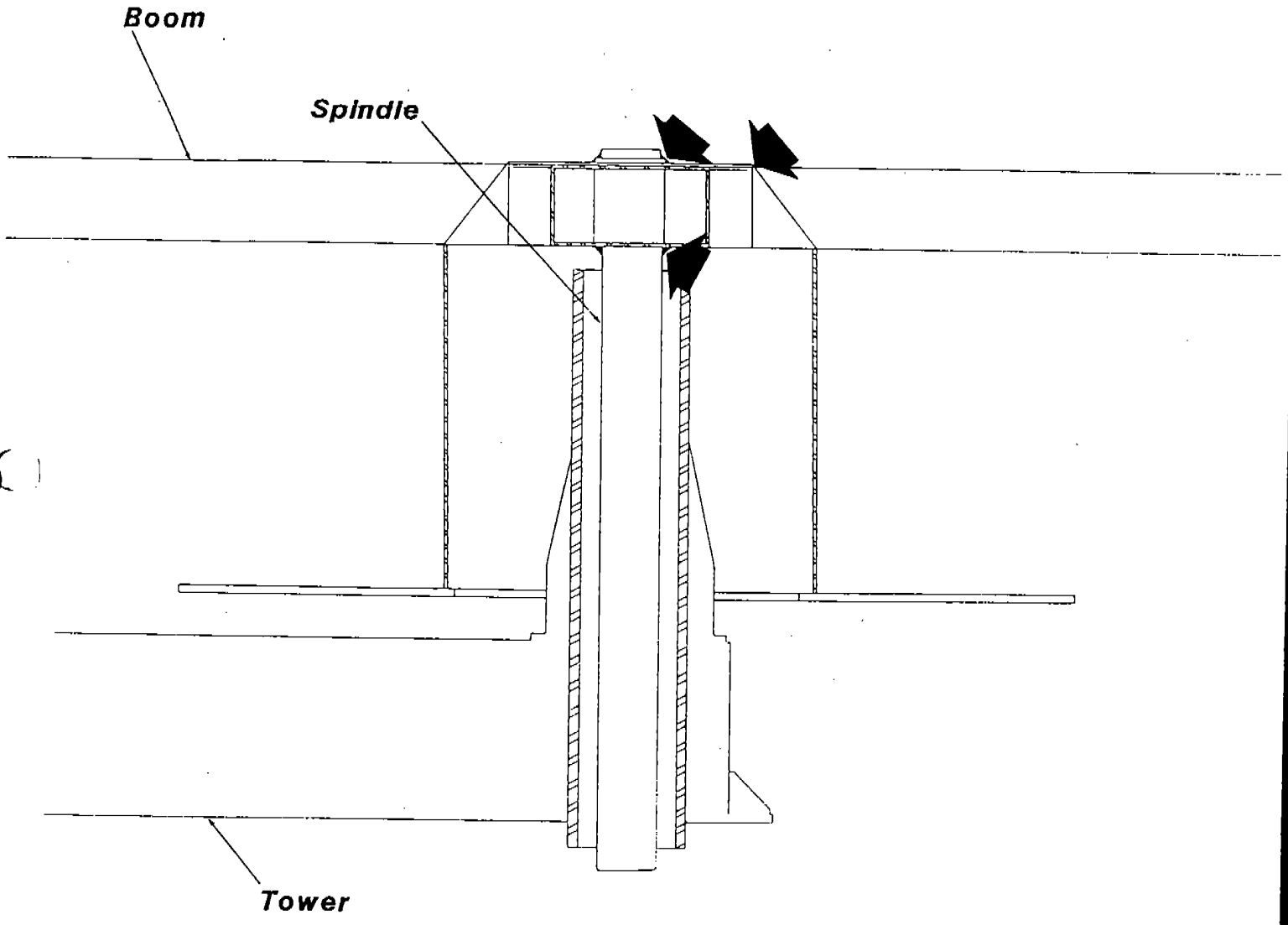


DETAIL B

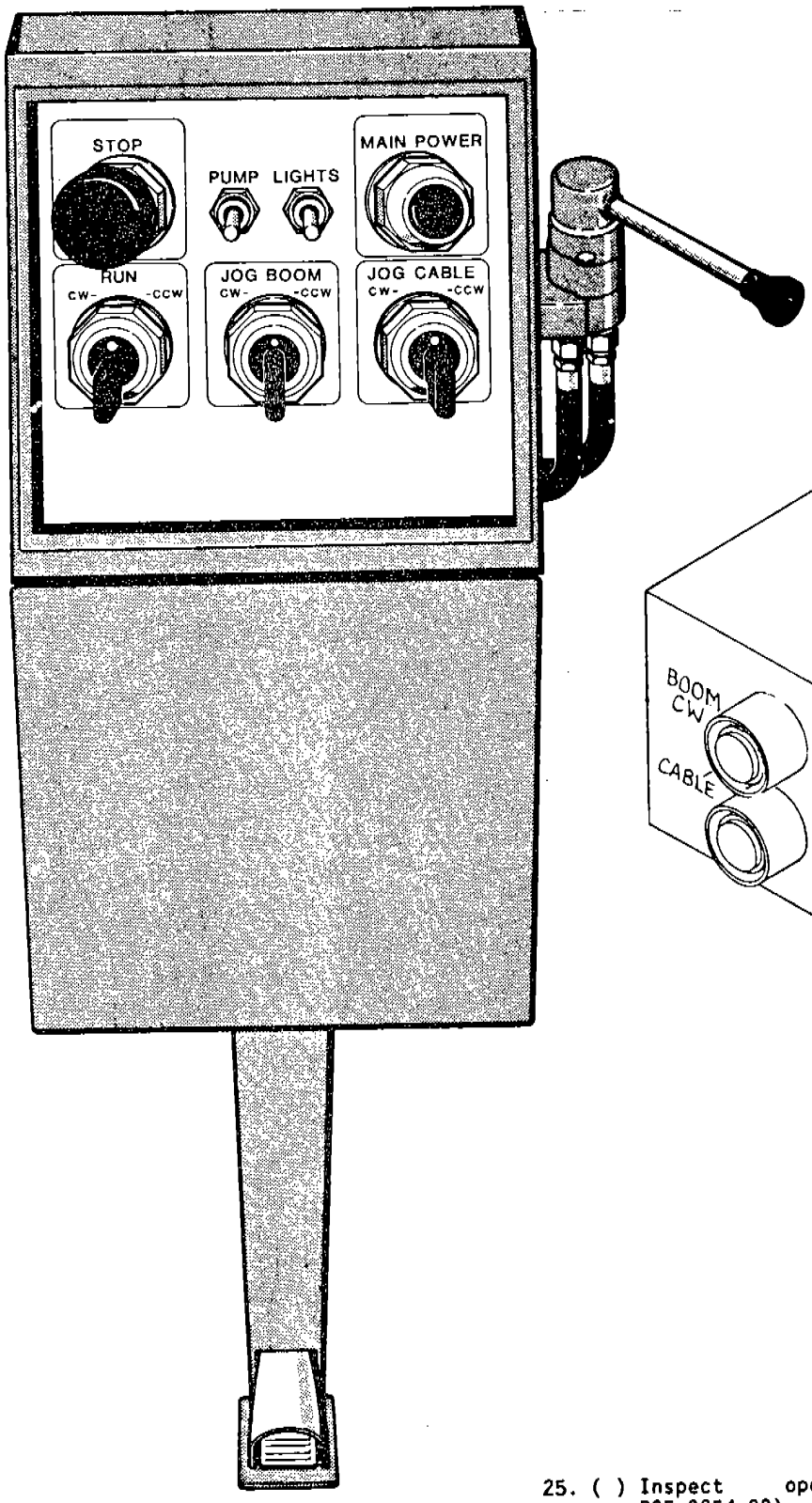
14. ( ) Inspect lap bars and padding (Bulletin B05-0205-0A).

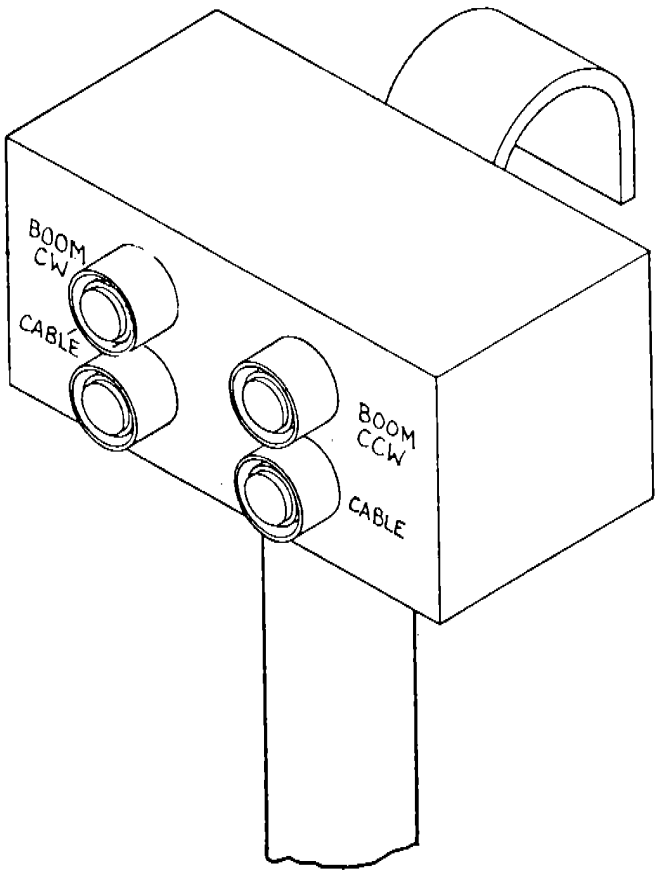


16. ( ) Inspect locking and latching mechanisms in all seats. Check expiration date on all spring latches (Bulletins B05-0142-0C, 05-157B and B05-0257-00).



22. ( ) Inspect structure for cracks, bad welds, etc. Inspect boom and spindle area for cracks (Bulletins B05-0359=00, A106R1057-0 and B106R1080-0).





25. ( ) Inspect operating controls (Bulletin B05-0254-00).

TROUBLE SHOOTING

SERIAL NUMBERS: 72-1871 & ON

TROUBLE	PROBABLE CAUSE	CORRECTION
Complete loss of hydraulic power	Pumps running wrong direction	Change two of the 110 volt lines at electrical source
Pumps make excessive noise	Pump cavitation (starved for hydraulic fluid)	Replenish fluid (or correct cause)
Pump cavitation	Dirty strainers (2) in tank	Remove and clean strainers
	Air leaks between reservoir and pump	Reseal or replace lines
	Shut Off valves (5) not fully open	Open valves
Tower fails to raise properly or not at all	Failure to bleed main (10) hydraulic cylinder	ALWAYS bleed cylinder before raising or lowering tower
	Leaking cylinder (10)	Install cylinder repair kit (See Parts Catalog)
	Damaged or leaking lines	Reseal or replace line
	Malfunctioning manual (9) control valve	Repair or replace valve
	Inadequate pressure to cylinder from weak spring in control valve (9)	Replace spring
Tower fails to raise or lower	Clogged orifice (10A)	Remove and clean
	Bent cylinder rod (10)	Replace cylinder
Tower raises or lowers too fast	Hole enlarged (10A) in orifice	Replace orifice
Boom slow to accelerate	Relief valve (15) (12) out of adjustment	Adjust
	Check valves (14) (16) partially held open by dirt, etc.	Remove and clean
	High rate of leakage in motor (18) caused by damaged or blown seals	Repair or replace

TROUBLE SHOOTING

SERIAL NUMBERS: 72-1871 & ON

TROUBLE	PROBABLE CAUSE	CORRECTION
Boom will not rotate	Directional valve (13) not shifting Relief valve (15) (12) held open by dirt, etc.	Repair valve or replace solenoid Remove and clean
Boom stops too fast	Relief valve (15) pressure too high	Adjust
Boom does not stop fast enough	Relief valve (15) pressure too low Check valve (16) in manifold partly held open by dirt, etc.	Adjust Remove and clean
Blown seals in hydraulic motor	High pressure in crankcase, clogged check (19) in drain line	Remove and clean

TROUBLE SHOOTING

SERIAL NUMBERS: 68-1801 THROUGH 72-1870

TROUBLE	PROBABLE CAUSE	CORRECTION
Complete loss of hydraulic power	Pumps running wrong direction	Change two of the 110 volt lines at electrical source
Pumps make excessive noise	Pump cavitation (starved for hydraulic fluid)	Replenish fluid or correct cause
Pump cavitation	Dirty strainers (2) in tank	Remove and clean strainers
	Air leaks between reservoir and pump	Reseal or replace lines
	Shut off valves (5) not fully open	Open valves
Tower fails to raise properly or not at all	Failure to bleed main (11) hydraulic cylinder	ALWAYS bleed cylinder before raising or lowering tower
	Leaking cylinder (11)	Install cylinder repair kit (See Parts Catalog)
	Damaged or leaking lines	Reseal or replace line
	Malfunctioning manual (10) control valve	Repair or replace valve
	Inadequate pressure to cylinder from weak spring in control valve (10)	Replace spring
Tower fails to raise or lower	Clogged orifice (11A)	Remove and clean
	Bent cylinder rod (11)	Replace cylinder
Tower raises or lowers too fast	Hole enlarged (11) in orifice	Replace orifice
Boom will not rotate	Directional Valve (13) not shifting	Repair valve or replace solenoid
	One of the drive motors (14) frozen or locked up (hydraulic oil will be pumping over relief causing loud noise)	Repair or replace
	Boom brake not releasing	Repair
Boom brake not releasing	Spool valve (15) not shifting	Remove end plug, clean and free spool
	Defective cylinder (16)	Repair or replace

TROUBLE SHOOTING

SERIAL NUMBERS: 68-1801 THROUGH 72-1870

TROUBLE	PROBABLE CAUSE	CORRECTION
Boom accelerates very slowly or does not rotate at correct speed	Relief valve (12) pressure too low	Replace spring or adjust valve, depending on type
	Boom brake not releasing fully	Adjust brake
	High rate of leakage in motors (14) caused by damaged or blown seals	Repair or replace
Sheaves (cable) do not rotate	Directional valve (18) not shifting	Repair valve or replace solenoid
	Brakes not releasing	Shuttle valves frozen, disassemble and clean
Sheaves not rotating at correct R.P.M.	Relief valve (17) pressure extremely low	Replace spring in valve or adjust, depending on valve type
	Hydraulic swivel spool (19) leaking internally	Replace seals
	High rate of leakage in motors (20) caused by damaged or blown seals	Repair or replace
Cable has jerky action as it goes around	One of the sheave brakes is contacting sheave as it rotates	Adjust brake

CROSS CABLES

Cross cables being installed properly is a very important factor in the performance of your ride. At no time should less than three (3) sets of cross cables be used.

Cross cables are used to help compensate for a small amount of misalignment in the seat support axles. If the misalignment becomes too severe, the cross cables will break. Misalignment of seat support axles will also result in rapid wear of the seat support axle wheels and binding or breaking of the wheel attaching bolts. Cross cables can also be broken if they are adjusted too tight or if they are twisted.

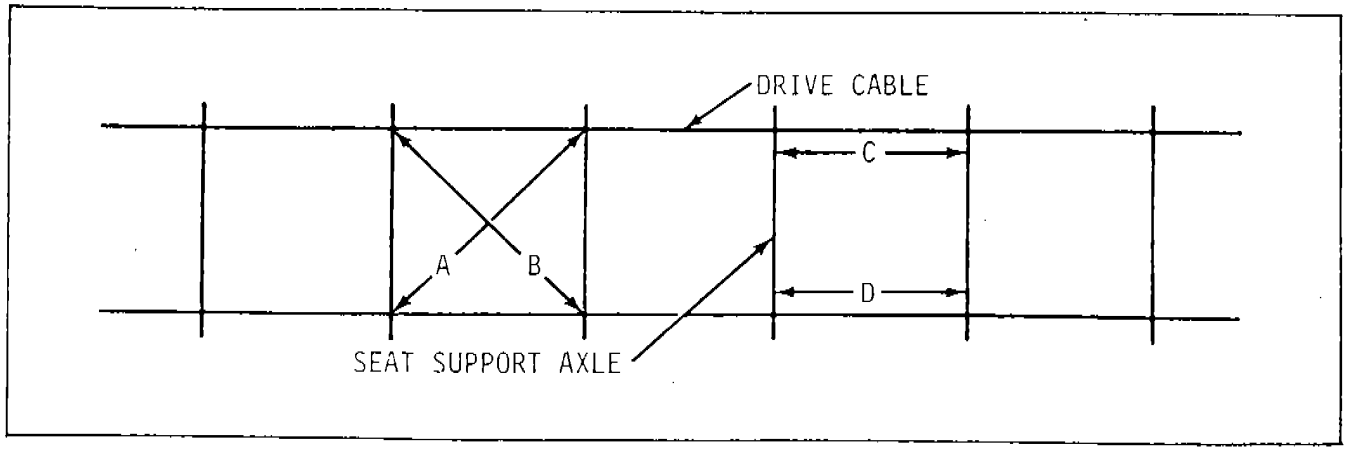
To check the alignment of the seat support axles, measure the distance diagonally (dimensions A and B) both directions between common points on all of the seat support axles. Measure the distance between all of the axles at common points parallel to the drive cables (dimensions C and D).

If the C and D dimensions are not consistant, loosen the appropriate U-bolt and move the seat support axle as required.

NOTE: Measurements and adjustments must be performed while the seat support axles are at a straight portion of the track and all cross cables have been removed.

If one of the drive cables has slipped, the A dimension will differ from the B dimension, but the C and D dimensions will be the same.

If this has happened, install one cross rod diagonally (A or B dimension, whichever is the longer) and tighten the cross rod. "Jog" the drive cables by running the cable drive first one direction and then the other for a few inches. Tighten the cross rod and repeat procedure until the A and B dimensions are the same.



NOTE: Misalignment of the seat support axles is commonly due to improperly adjusted sheave drive cables. Check the drive cables for proper adjustment before retightening the seat support axle U-bolts and installing the cross cables.

If one cable has stretched more than the other, it will travel around the sheaves at a slower speed than the shorter one. The seat support axles and cross cables will then "pull" the looser drive cable at the same speed as

the tighter drive cable, this forces one of the cables to slip in the sheaves The more difference there is in the lengths of the two drive cables, the more stress is put on the cross cables and seat support axles.

If one cable has stretched, the C dimension will differ from the D dimension, but the A and B dimensions will be the same. This can be corrected by adjusting the sheave drive axles so that the shorter drive cable will stretch to the same length as the longer one.

NOTE: Before adjusting the drive cables, check both sheave drive axles for alignment.

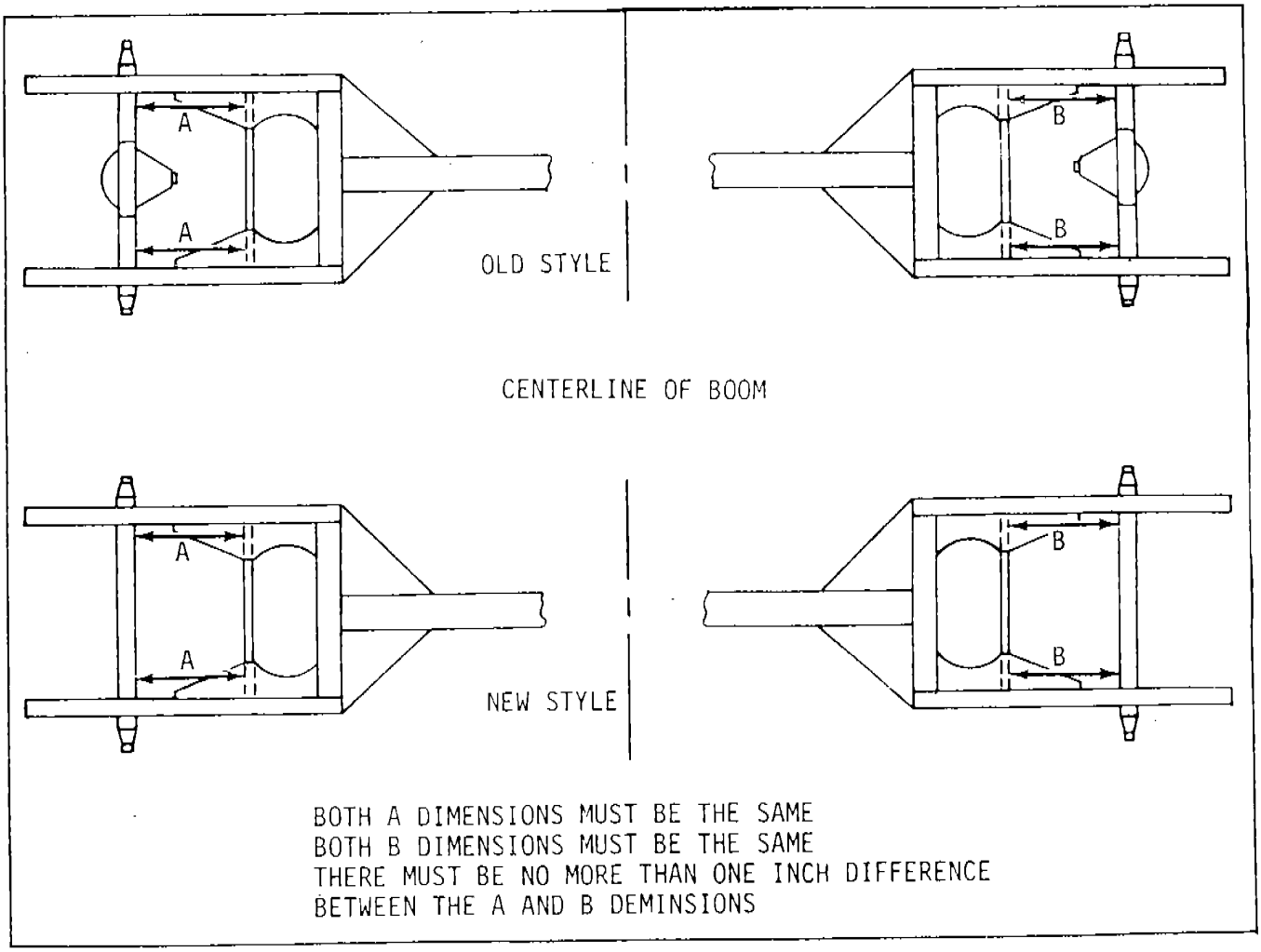
Sheave drive axles should be checked by measuring from a common point on the differential axle (Serial Numbers 68-1801 thru 72-1870) or the solid shaft axle (Serial Numbers 72-1871 and on) to the first cross channel on the boom. (See Figure B).

The two dimensions must be the same on both sides of the same axle. Then compare the dimensions from both axles, there must be no more than one inch difference between the two axles.

If after checking the adjustment of the drive axles, one of the drive cables appears loose, tighten that cable the minimum amount possible to prevent slippage.

When adjusting the drive cables, always adjust the axle closest to the center line of the boom. This will keep the boom as closely balanced as possible. Always remove the cross cables and cross rods when making adjustments to the drive cables.

NOTE: Both ends of the drive axle being adjusted must always be moved the same amount. The tighter of the two cables will stretch more than the other and in time, both cables will achieve the same tension.



If the cables have been adjusted improperly and have become so different in length that both cables cannot be brought to the same length by running one slightly looser than the other, then new cables must be installed.

After the drive cables have been adjusted, check the seat support axles again for alignment and readjust as necessary. Tighten U-bolts so that the drive cable is drawn against the bottom of the recess in the seat support axle. Check the U-bolts for tightness after one days use and weekly thereafter.

When cross cables are reinstalled after the sheave drive cables have been adjusted or when the ride is set up, adjust cross cables so they are snug, but not overly tight. Adjustments must be made while the seat support axles are at a straight section of track.

When adjusting the cross cables, hold the terminal on the turnbuckle end of the cable while turning the turnbuckle. This will keep the cable from twisting. Twisted cables will coil as the tension is lessened when the seat support axles go around the end of the track. As the seat support axle enters a straight section of track, they are pulled tight. This will cause a coiled cable to kink and/or break.

Cross tie rods must be used when setting up or tearing down the ride to help keep the seat support axles in alignment.

NUMBER: B106R1151-0

DATE: JULY 1, 1994

SUPERSEDES: B05-0257-00

America's Largest Manufacturer of Amusement Rides

SERVICE BULLETIN

Effective Serial Number: All Units - Chance Rides, Inc.
All Units - Chance Manufacturing Co.,Inc.

Chance Rides, Inc. SPECIFICALLY DISCLAIMS ANY LIABILITY for losses associated with rides produced by Chance Manufacturing Company, Inc.

Ride: ZIPPER

Subject: Replacement of Spring Latches

Chance Manufacturing Co. Inc., Service Bulletin Number B05-0257-00 has been superseded by this Service Bulletin and is no longer in effect. All copies of Service Bulletin B05-0257-00 should be destroyed.

Chance Rides, Inc., through testing and design change, has developed a new spring latch assembly for the vehicle doors on above noted ZIPPER amusement rides. This new spring latch assembly makes use of a new style backing plate, a new leaf spring, and a spring latch. This design extends the life of the spring latch.

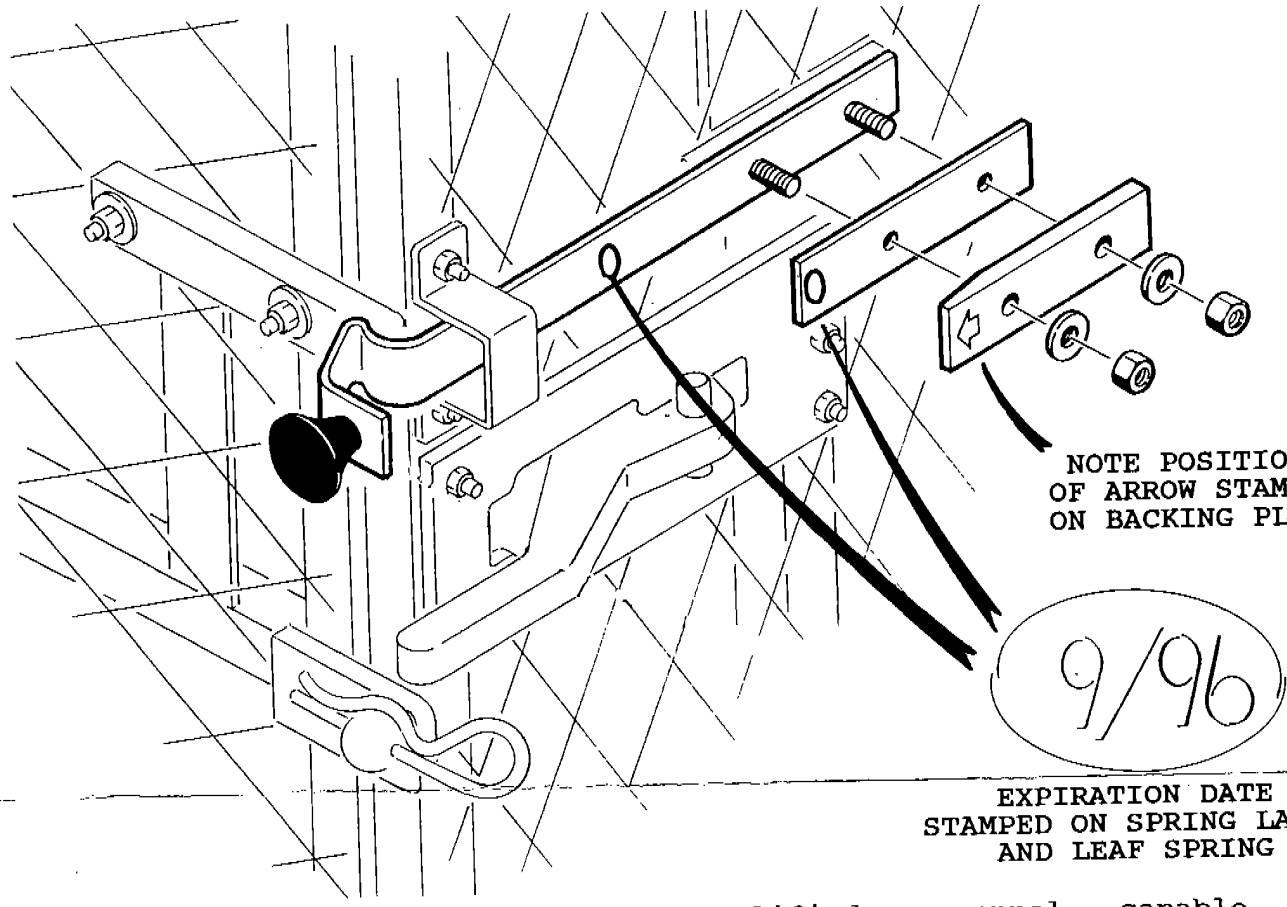
Both the spring latch and leaf spring are dated items. They are stamped with an expiration date and must be replaced on or before that date. The spring latch and the leaf spring are good for up to a maximum of a two (2) year period, and are dated for the last month of the preceding quarter in which they are shipped. Dated items ordered in January, February and March will be dated "12" for the last month (December) of the preceding quarter; those ordered in April, May and June will be dated "3" for the last month (March) of the preceding quarter; those ordered in July, August and September will be dated "6" for the last month (June) of the preceding quarter; those ordered in October, November and December will be dated "9" for the last month (September) of the preceding quarter.

If the expiration date has been altered, painted over, or is illegible, the spring latch or leaf spring must be replaced.

Replacement parts: (parts must be used in combination with each other)

Part Number	Description	Quantity
33249700	Spring Latch	12
37204000	Leaf Spring	12
34940800	Backing Plate	12

IMPORTANT: **The spring latches, leaf springs and backing plates must be installed exactly as shown in this bulletin.**



All work must be performed by qualified personnel, capable of understanding the function of the parts and their proper installation.

NOTICE

Use only those components authorized, specified or provided by Chance Rides, Inc.

Chance Rides, Inc. SPECIFICALLY DISCLAIMS ANY LIABILITY for losses associated with any unauthorized alterations and/or modifications or additions and installations of unauthorized components.

NUMBER: B106R1096-0

DATE: APRIL 5, 1991

SUPERSEDES:

America's Largest Manufacturer of Amusement Rides

SERVICE BULLETIN

Effective Serial Number: All Units - Chance Rides, Inc.

Ride: ZIPPER

Subject: Seat Spindle Lubrication

Chance Rides, Inc. has become aware that some ZIPPER amusement rides have experienced wear to the seat spindles in the bearing areas and to the bearings as well. This is caused by a lack of lubrication in those areas. A loss of lubrication to some bearings may occur due to settling during roading.

Proper lubrication of the bearings and the seat support assemblies is essential to minimize wear. The bearings in the seat support assemblies must be repacked annually. The seat support assemblies must be checked annually and repacked as required to keep them full of grease. Use only number 2 lithum base grease on bearings and in the seat support assemblies.

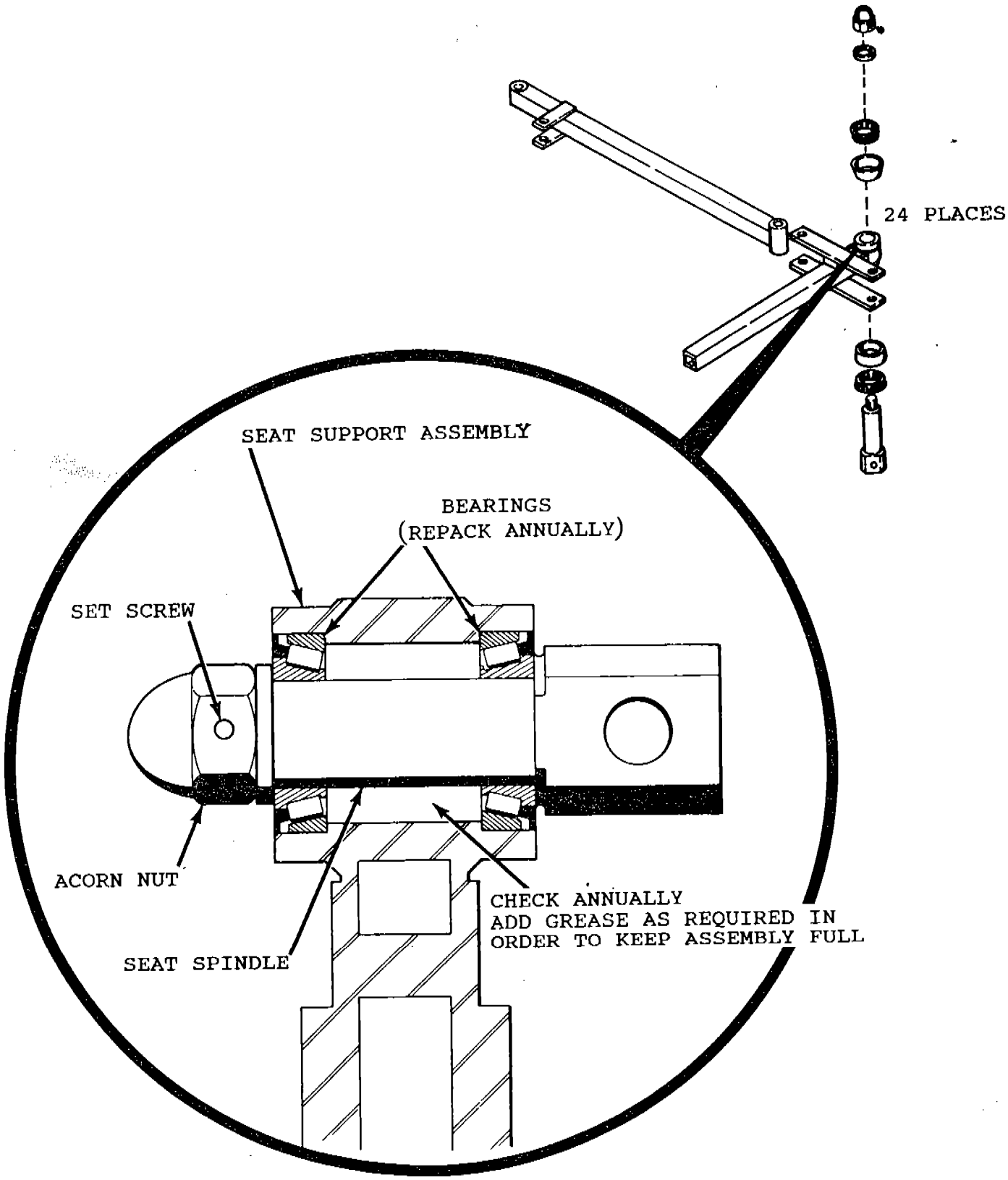
All work must be performed by qualified personnel, capable of understanding the function of the parts and their proper installation.

NOTICE

Use only those components authorized, specified or provided by Chance Rides, Inc.

Chance Rides, Inc. SPECIFICALLY DISCLAIMS ANY LIABILITY for losses associated with any unauthorized alterations and/or modifications or additions and installations of unauthorized components.

Factory and Sales Office: 4219 Irving · P.O. Box 12328 · Wichita, Kansas 67277-2328 · (316) 942-7411 · FAX: (316) 942-7416



When reassembling, tighten acorn nut until all back and forth movement of the seat spindle is eliminated. Seat spindle must still turns freely. Secure acorn nut with set screw.

NUMBER: B106R1095-0

DATE: MARCH 1, 1991

SUPERSEDES:

America's Largest Manufacturer of Amusement Rides

SERVICE BULLETIN

Effective Serial Number: All Units - Chance Rides, Inc.

All Units - Chance Manufacturing Co., Inc.

Chance Rides, Inc. SPECIFICALLY DISCLAIMS ANY LIABILITY for losses associated with rides produced by Chance Manufacturing Company, Inc.

Ride: ZIPPER

Subject: Seat Support Assembly Bushing

Recent field inspections have found seat support assembly bushings on ZIPPER amusement rides either badly worn or not clamped correctly. Chance Rides, Inc. requires all owner/operators of ZIPPER rides to inspect these bushings to ensure that the manufacturer's specifications are being met.

The bushing used in the seat support assembly is a specially manufactured bushing with an overall length of 2-1/8 inches. This length allows for the trolley axle weldment to clamp to the bushing. This holds the bolt stationary in the bushing as the bushing turns inside the seat support assembly. The outside diameter of the bushing is the wear area. The bolt wearing into the bushings is an indication that the bolt is not adequately tightened. If this occurs the bushing must be replaced and the bolt tightened securely so as to adequately clamp the bushing.

Lubrication of the bushing is done once a week or at each set up, which ever occurs first. Use number 2 lithium base grease on the bushing, applied through the grease zerk at the end of the seat support assembly.

All work must be performed by qualified personnel, capable of understanding the function of the parts and their proper installation.

NOTICE

Use only those components authorized, specified or provided by Chance Rides, Inc.

Chance Rides, Inc. SPECIFICALLY DISCLAIMS ANY LIABILITY for losses associated with any unauthorized alterations and/or modifications or additions and installations of unauthorized components.

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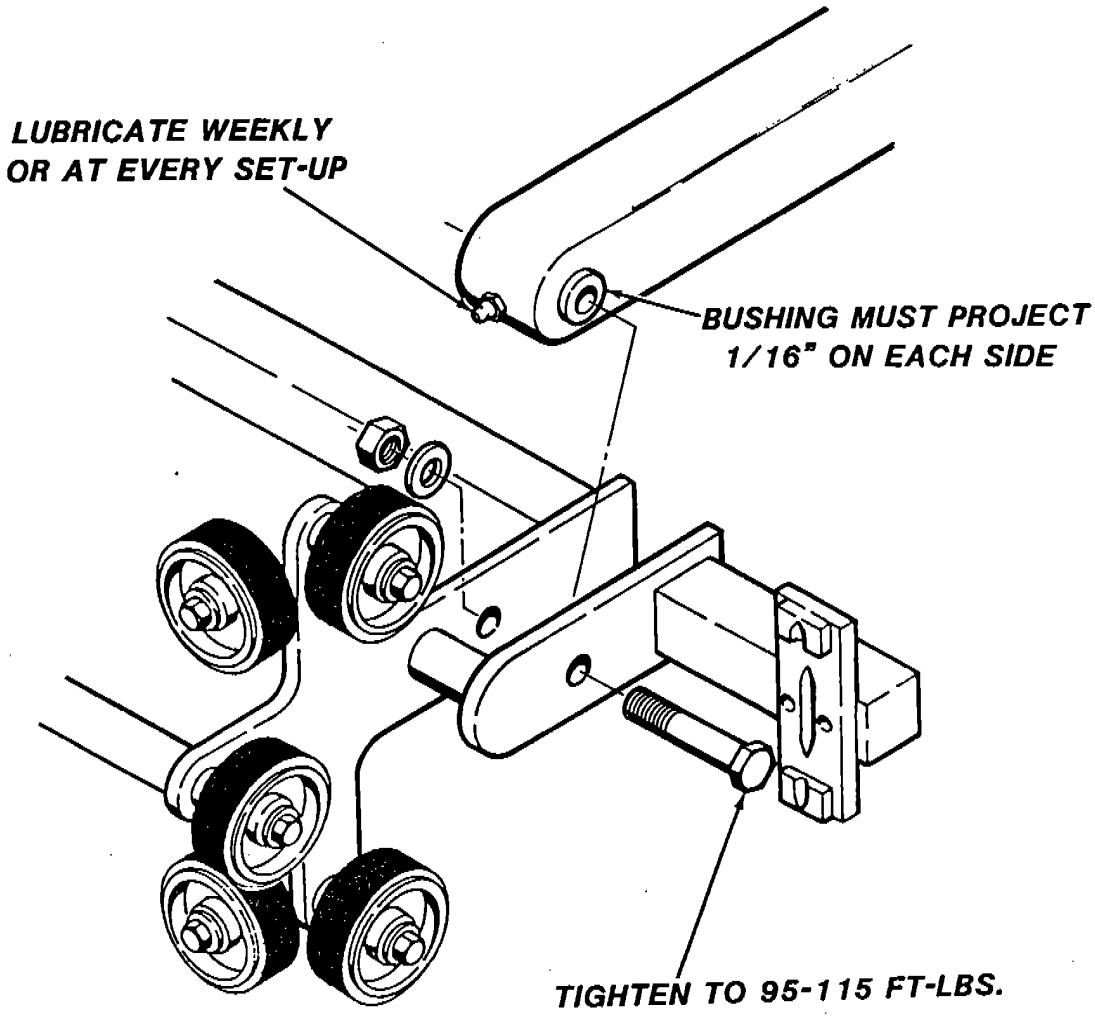

LUBRICATE WEEKLY
OR AT EVERY SET-UP
BUSHING MUST PROJECT
1/16" ON EACH SIDE
TIGHTEN TO 95-115 FT-LBS.

NUMBER: B106R1094-0

DATE: MAR. 1, 1991

SUPERSEDES:

America's Largest Manufacturer of Amusement Rides

SERVICE BULLETIN

Effective Serial Number: All Units - Chance Rides, Inc.

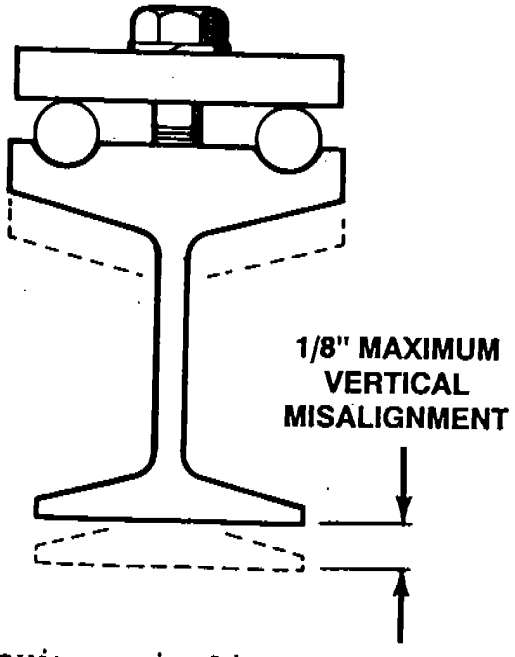
All Units - Chance Manufacturing Co., Inc.

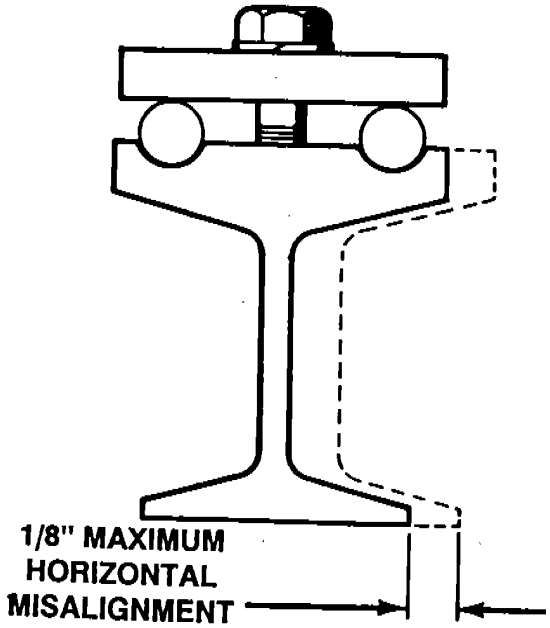
Chance Rides, Inc. SPECIFICALLY DISCLAIMS ANY LIABILITY for losses associated with rides produced by Chance Manufacturing Company, Inc.

Ride: ZIPPER

Subject: Track Alignment/Trolley Bolts

Chance Rides, Inc. has become aware of at least one ZIPPER amusement ride on which the straight track and the curved tracks became misaligned. If this occurs, damage to both the wheels and the bolts holding the wheels may occur. Chance Rides, Inc. requires all ZIPPER owner/operators to check the alignment of the track at each set up or monthly, whichever occurs first.





The maximum misalignment of the track sections, in either an up and down or side to side direction is 1/8".

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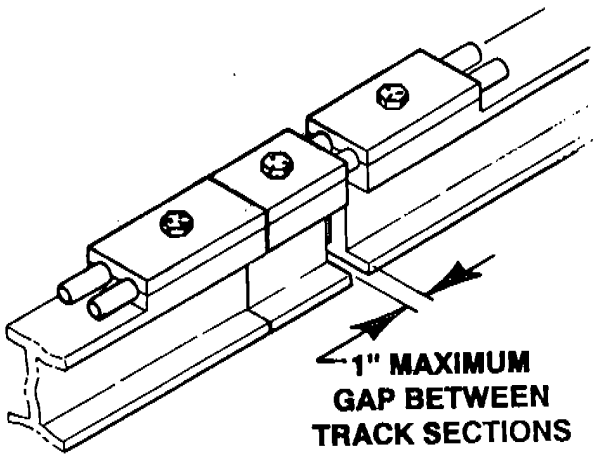
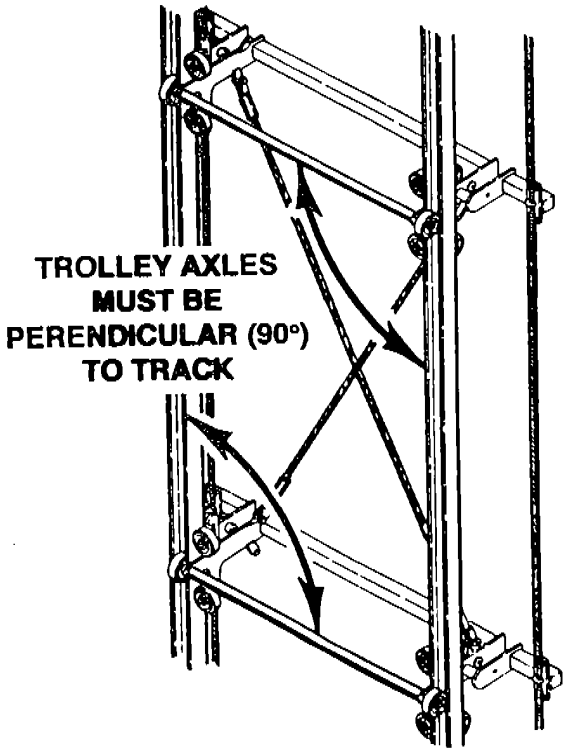
All owner/operators of ZIPPER rides must adhere to the following maintenance on the track and trolley wheels.

1. Use only the proper track spacers, attaching plates and pins (refer to Chance Rides service bulletins, numbers B106R1008-0 and B106R1013-0). Only grade 5 1/2-13 x 1-1/4" hex head cap screws are to be used. All items must be in good condition.

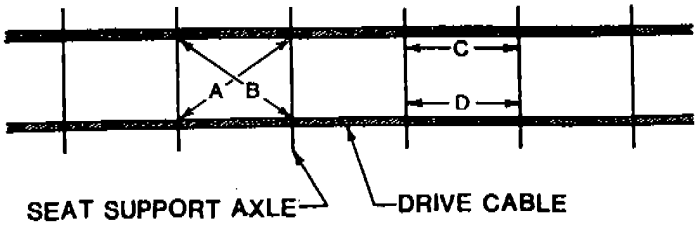
2. Maintain the smallest possible gap between the straight and curved sections of track. The maximum total allowable gap between track sections is 1" (refer to Chance Rides service bulletin number B106R1008-0).



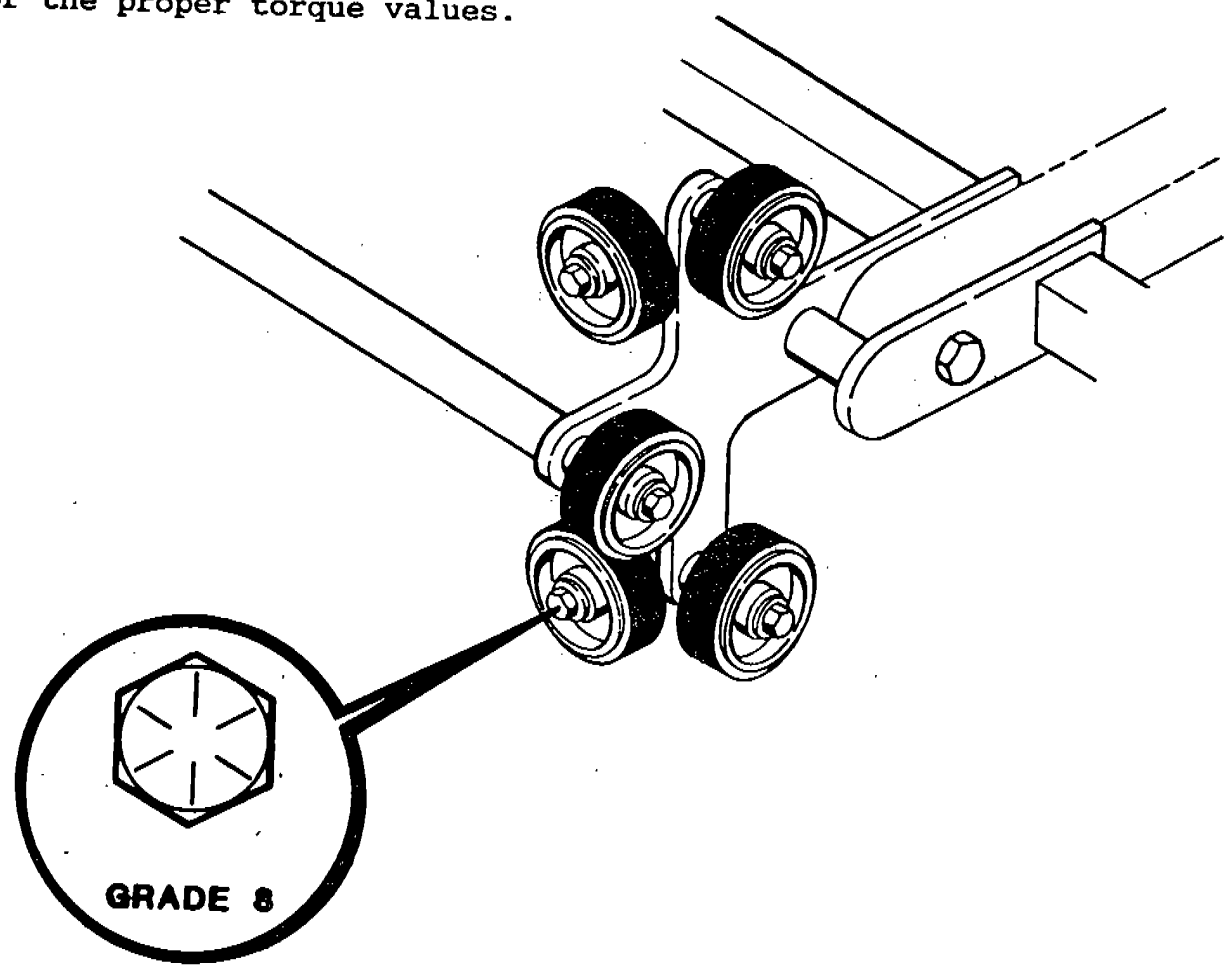
3. Trolley axles must be perpendicular to the track so the wheels run freely and do not bind.



Trolley axles are properly aligned when "A"="B" and "C"="D".



4. All trolley wheels must be secured with grade 8 bolts. Refer to the operation/maintenance manual for the correct length bolt for each wheel on your particular ride and for the proper torque values.



All work must be performed by qualified personnel, capable of understanding the function of the parts and their proper installation.

NOTICE

Use only those components authorized, specified or provided by Chance Rides, Inc.

Chance Rides, Inc. SPECIFICALLY DISCLAIMS ANY LIABILITY for losses associated with any unauthorized alterations and/or modifications or additions and installations of unauthorized components.

NUMBER: B106R1080-0

DATE: JULY 2, 1990

SUPERSEDES:

America's Largest Manufacturer of Amusement Rides

SERVICE BULLETIN

Effective Serial Number: All Units - Chance Rides, Inc.

All Units - Chance Manufacturing Co., Inc.

Chance Rides, Inc. SPECIFICALLY DISCLAIMS ANY LIABILITY for losses associated with rides produced by Chance Manufacturing Company, Inc.

Ride: ZIPPER Subject: Boom Support Kit Adjustment

Chance Rides, Inc. has become aware that the boom support kits on some ZIPPER amusement rides have not been maintained per manufacturer's specifications. This kit supports the boom during roading. If the manufacturer's specified adjustments are not maintained, damage to the boom may occur.

If your ride is equipped with Kit number K05-0244-01, refer to the reverse side of this bulletin for the manufacturer's specifications on proper adjustment.

All work must be performed by qualified personnel, capable of understanding the function of the parts and their proper installation.

NOTICE

Use only those components authorized, specified or provided by Chance Rides, Inc.

Chance Rides, Inc. SPECIFICALLY DISCLAIMS ANY LIABILITY for losses associated with any unauthorized alterations and/or modifications or additions and installations of unauthorized components.

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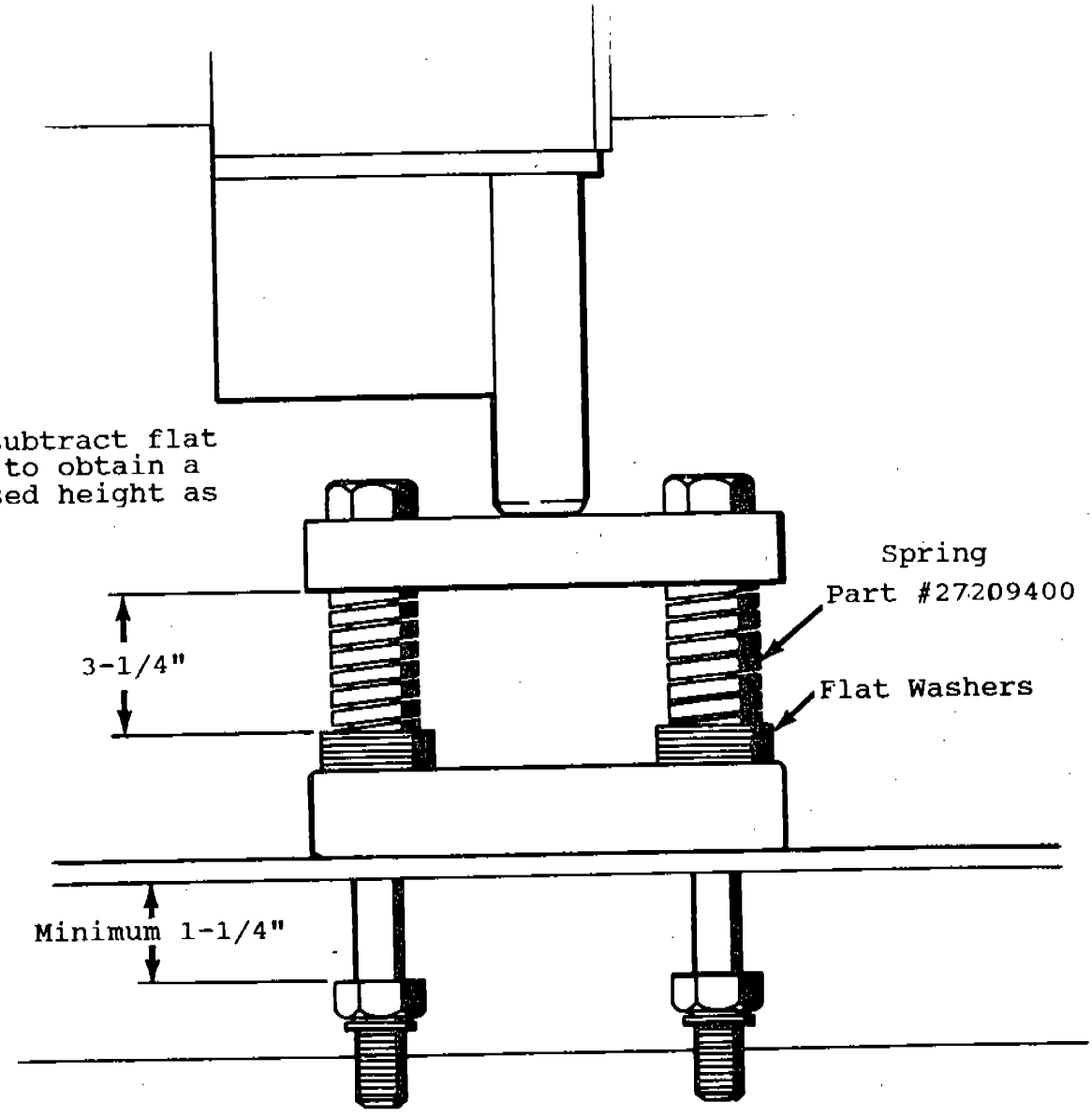
All adjustments to the boom support kit must be made with the ride in the down (roading) position and the trailer secured to the tractor.

Springs should not be broken or sprung out of shape.

Add or subtract flat washers to obtain a compressed height as shown.



NUMBER: A106R1057-A

DATE: MAY 22, 1990

SUPERSEDES:

America's Largest Manufacturer of Amusement Rides

SAFETY ALERT

Effective Serial Number: All Units - Chance Rides, Inc.
(Excluding units #145 and on)
All Units - Chance Manufacturing Co., Inc.
(Excluding those units which have repair kit K106R1057-A added.)

Chance Rides, Inc. SPECIFICALLY DISCLAIMS ANY LIABILITY for losses associated with rides produced by Chance Manufacturing Company, Inc.

Ride: ZIPPER

Subject: NDT Inspection of boom weld around spindle

WARNING: FAILURE TO COMPLY WITH THIS SAFETY ALERT BULLETIN CAN RESULT IN INJURY TO PASSENGERS

Cracks on the bottom of the boom around the spindle have been found on some ZIPPER amusement rides. Chance Rides, Inc. requires all owners of ZIPPER rides indicated above regardless of boom type, to have a qualified testing laboratory perform the liquid penetrant inspection technique outlined on the reverse side of this bulletin. This inspection must be completed within 15 days from receipt of this bulletin or by July 1, 1990, whichever occurs first, and on an annual basis, thereafter.

Once this NDT technique has been completed the attached Certificate Of Compliance and a copy of the NDT report must be sent to Chance Rides, Inc.

If the inspection reveals any linear indications, DO NOT OPERATE THE RIDE. DO NOT ATTEMPT TO WELD OR REPAIR THE RIDE. A rework kit has been developed for this repair. CONTACT CHANCE RIDES, INC. CUSTOMER SERVICE DEPARTMENT IMMEDIATELY.

The ZIPPER rides which are exempt from this bulletin, see illustration C, must be inspected as outlined in Service Bulletin B106R1057-0 or B05-0359-00.

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The following liquid penetrant inspection technique meets the requirements of ASTM E1220-87 and must be performed by a qualified and certified Level II or Level III inspector.

1. Pre-Clean:
   Lightly dress weld areas as shown in Illustration A and B with grinding pad to remove rust, paint, and other contaminates.

2. Apply Penetrant:
   The visible dye, color contrast, solvent removable penetrant must thoroughly cover the weld areas.

3. Dwell Time:
   The penetrant shall remain on the area of interest for a minimum of 10 minutes.

4. Excess Penetrant Removal:
   A. Wipe as much of the penetrant from the weld area as possible by using a clean, dry, lint-free cloth rag.

   B. Removal of penetrant residue is done by wiping the weld area with a clean, lint-free cloth rag that has been moistened with the cleaner remover.

5. Developer Application:
   Apply a thin even coating of a non-aqueous developer to the weld area and allow it to develop for a minimum of seven minutes.

6. Inspection:
   Thoroughly inspect all weld areas for linear indications. IF ANY LINEAR INDICATIONS ARE FOUND, DO NOT OPERATE THE RIDE. CONTACT THE CHANCE RIDES, INC. CUSTOMER SERVICE DEPARTMENT IMMEDIATELY. Fill out test report with results and send a copy to Chance Rides, Inc.

7. Post Clean:
   Clean weld areas with penetrant cleaner remover and wipe off residues with a cloth rag.

ILLUSTRATION A

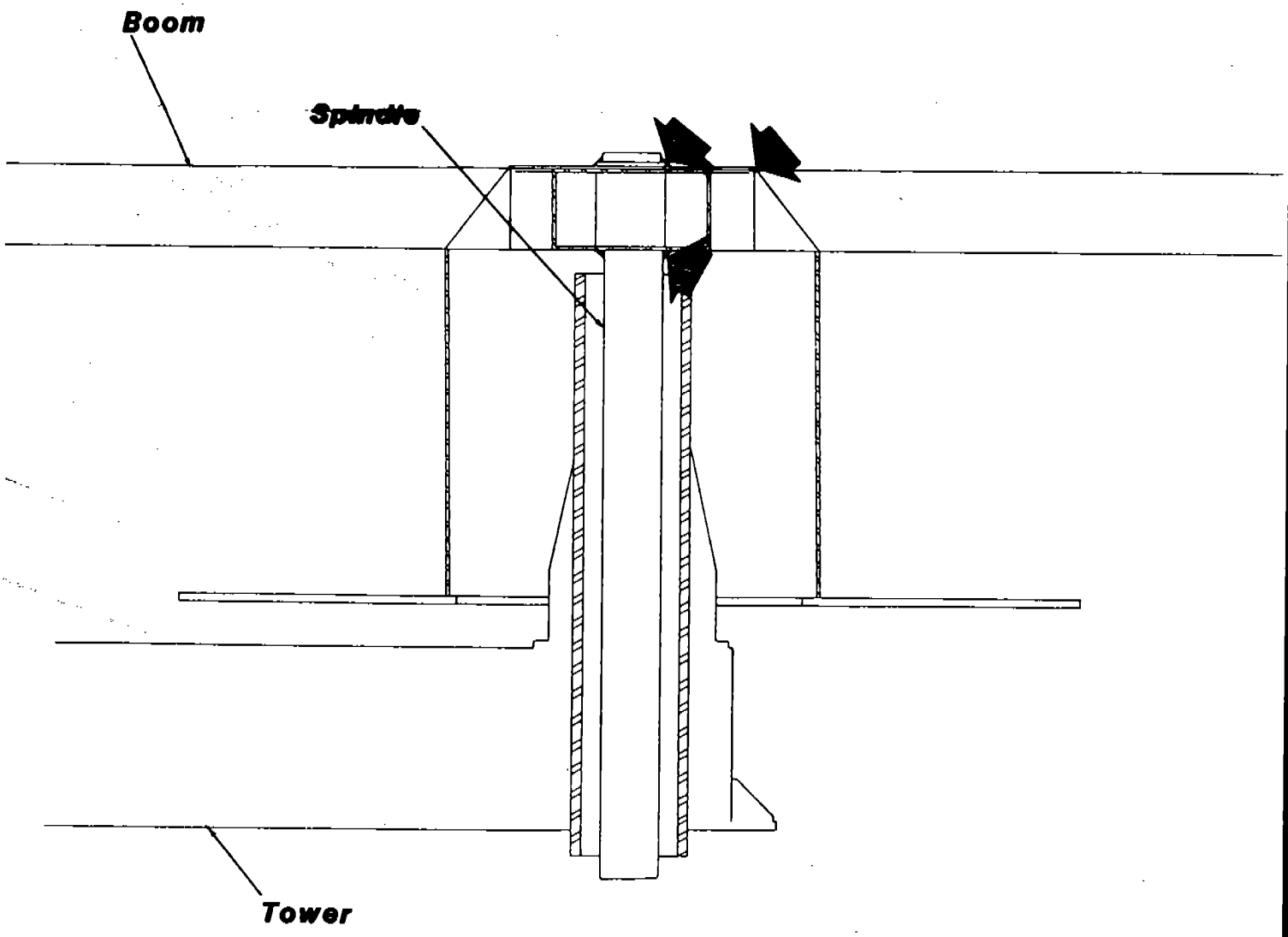


ILLUSTRATION B

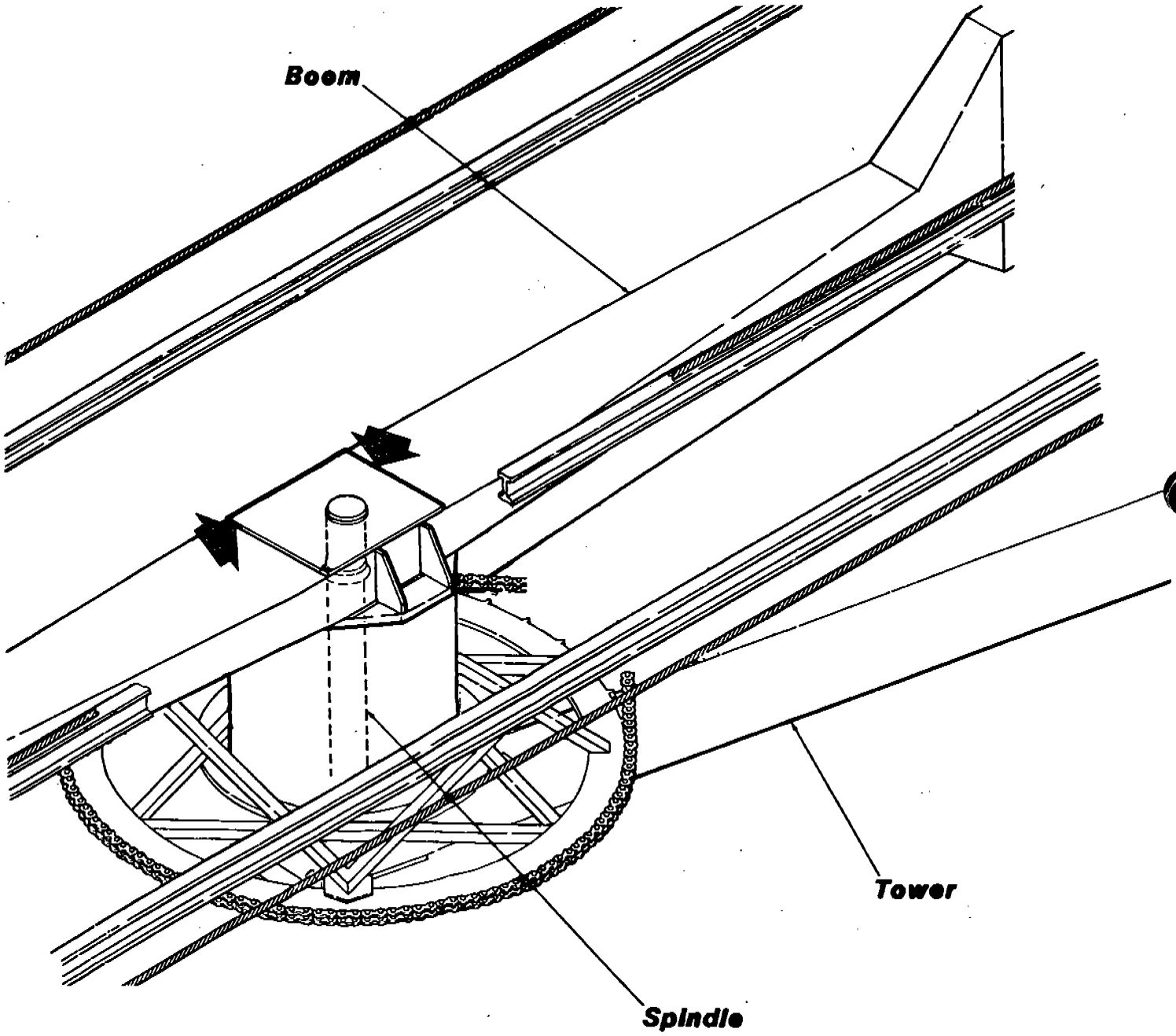
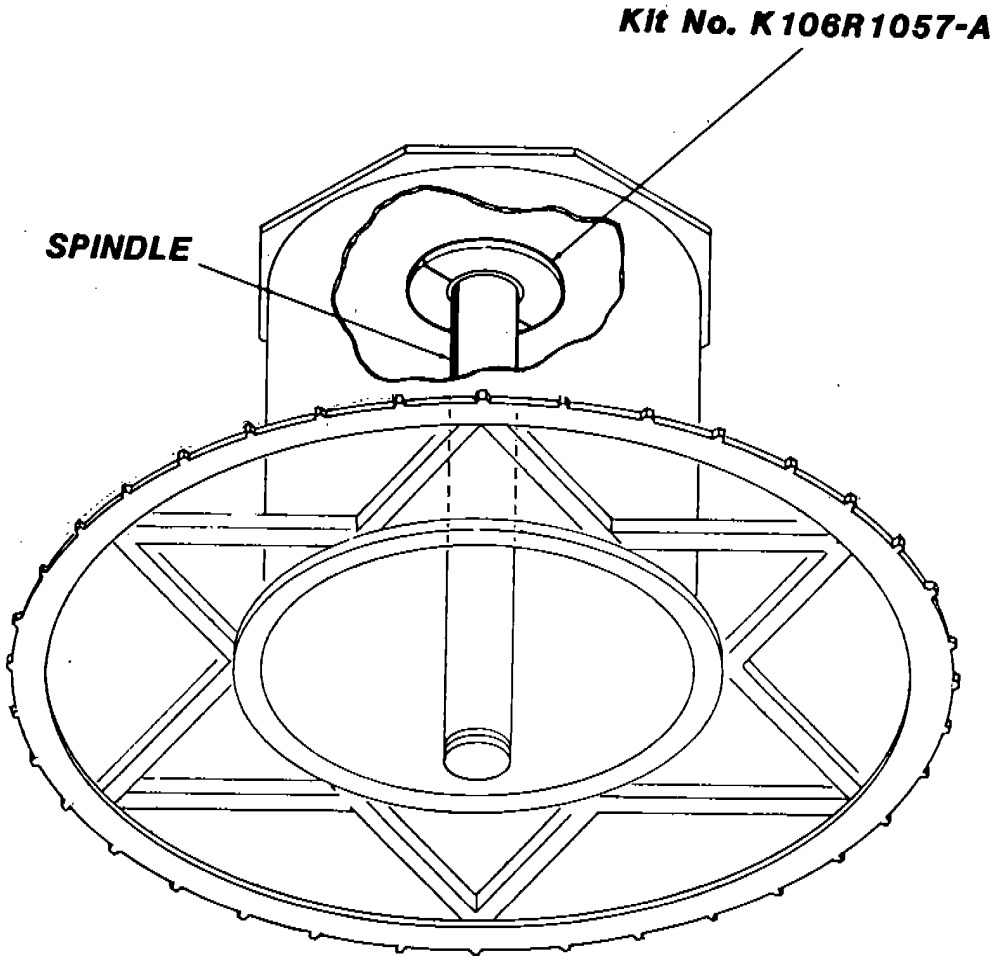


ILLUSTRATION C



Number: B106R1057-0

Date: Feb. 9, 1990

Supersedes:

America's Largest Manufacturer of Amusement Rides

SERVICE BULLETIN

Effective Serial Numbers: ALL UNITS

Ride: ZIPPER

Subject: Inspection of Boom and Spindle Area

Chance Rides, Inc. has become aware of a ZIPPER amusement ride in which cracks have developed in the area around the spindle where it attaches to the boom. All ZIPPER owners are required to perform the inspection on the spindle area as described on the reverse side of this bulletin. The Certification Of Compliance must be filled in and returned to Chance Rides, Inc. within 15 days from receipt of this bulletin.

This inspection should be performed on an annual basis.

The inspection must be performed by qualified personnel, capable of understanding the function of the parts and their proper installation. If there are any questions regarding the instructions or this inspection, contact the Chance Customer Service Department.

NOTICE

USE ONLY THOSE COMPONENTS AUTHORIZED, SPECIFIED OR PROVIDED BY THE MANUFACTURER. IF ANY ALTERATIONS AND/OR MODIFICATIONS OR ADDITIONS AND INSTALLATIONS OF UNAUTHORIZED COMPONENTS ARE MADE TO THE ORIGINAL DESIGN WITHOUT THE MANUFACTURER'S EXPLICIT WRITTEN CONSENT OR WITHOUT DIRECT SUPERVISION BY A MANUFACTURER'S REPRESENTATIVE, CHANCE RIDES, INC. MAKES NO CLAIMS AS TO THE INTEGRITY OF THE ALTERED OR MODIFIED RIDE.

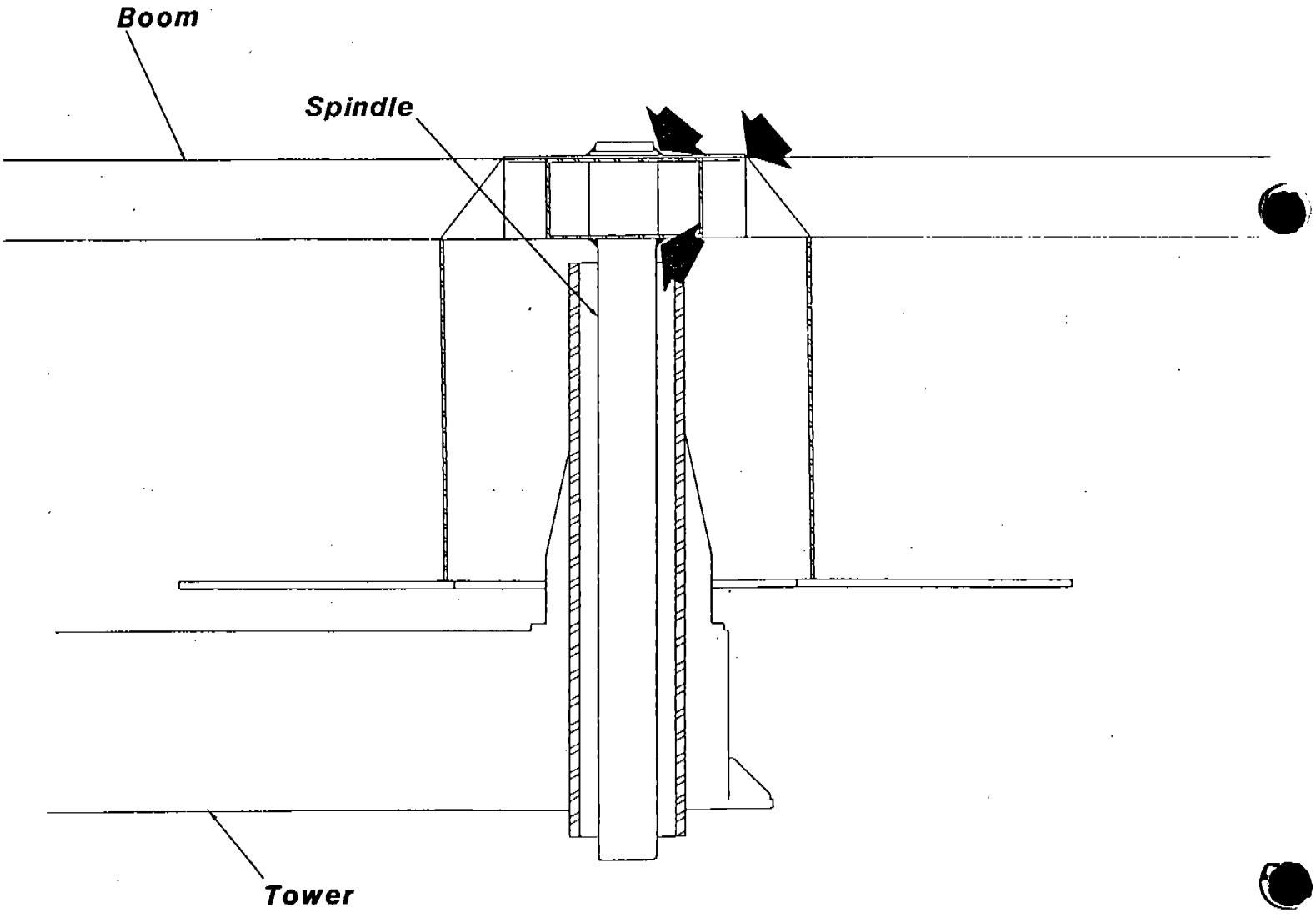
Inspection Procedures

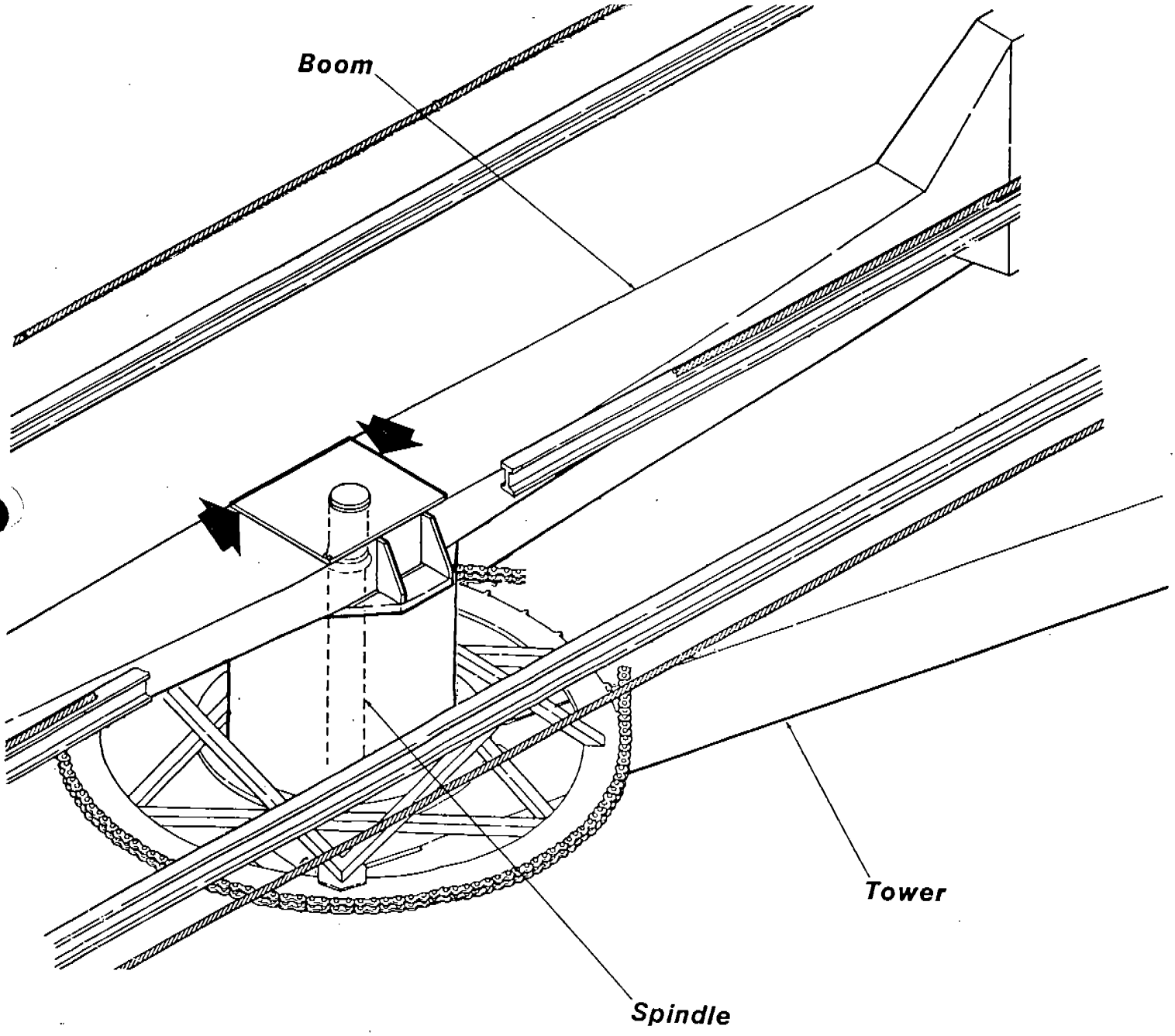
1. With the ride in the roading position, clean all weld areas with a suitable solvent to remove dirt and grease residues.

2. Inspect all weld areas for cracks as shown in the following illustrations.

3. Inspection should be done from the inside as well as the outside of the boom area.

4. If any cracks are found, DO NOT ATTEMPT TO REPAIR OR REWELD THEM, contact Chance Customer Service immediately. DO NOT OPERATE THE RIDE UNTIL CHANCE CUSTOMER SERVICE HAS BEEN NOTIFIED.




Boom
Tower
Spindle

Number: B106R1051-0

Date: Feb. 1, 1990

Supersedes:

America's Largest Manufacturer of Amusement Rides

SERVICE BULLETIN

Effective Serial Numbers: All Units with a manufacturing date that is one year old or older

Ride: ZIPPER

Subject: AXLE FRAME INSPECTION AND REINFORCEMENT PLATE KIT

Proper alignment of the axles frames is essential to smooth operation and long service life of all components. If the ride is operated with misalignment, the axle frames can develop cracks, and eventually fail, resulting in possible injury to passengers.

As a safety precaution, Chance Rides, Inc. requires that all ZIPPER amusement ride axle frames be inspected and kit no. K05-0350-00 be installed.

Perform the inspection and the addition of kit no. K05-0350-00, using the instructions on the reverse side of this bulletin. Return the attached Certification Of Compliance for this work within fifteen (15) days from receipt of the kit.

NOTICE

All work must be performed by qualified personnel, capable of understanding the function of the parts and their proper installation.

Use only those components authorized, specified or provided by the manufacturer. If any alterations and/or modifications or additions and installations of unauthorized components are made to the original design without the manufacturer's explicit written consent or without direct supervision by a manufacturer's representative, Chance Rides, Inc. makes no claim as to the integrity of the altered or modified ride.

Inspection Instructions

Inspect both ends of each axle frame for cracks as shown in Illustration A.

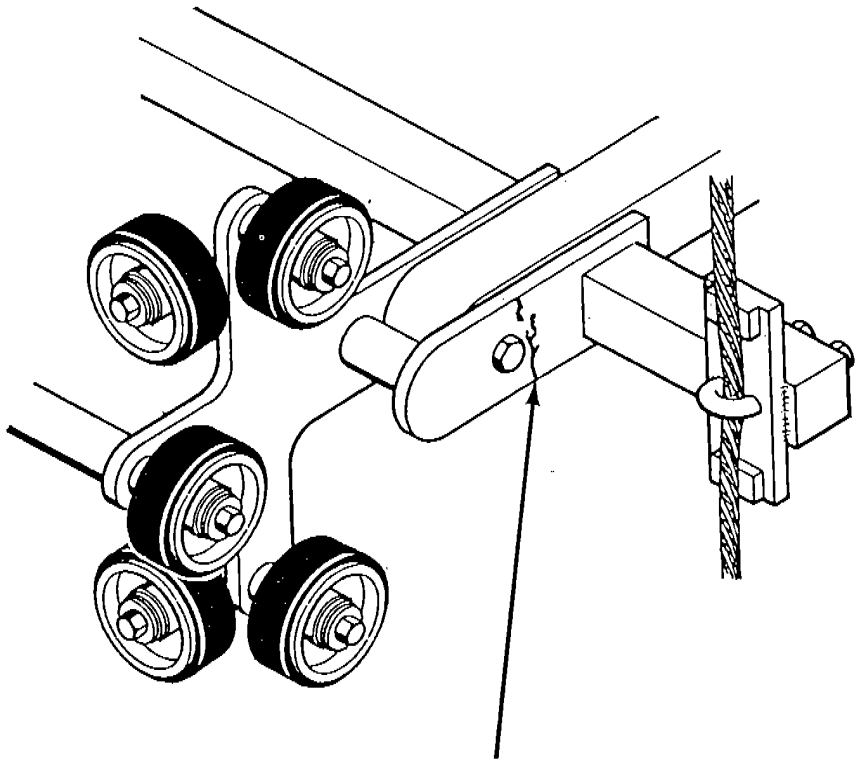


ILLUSTRATION A

If cracks are found, replace the axle frame with a new part. Do not attempt to weld or otherwise repair a cracked axle frame. Order part number 305-03240 for a new axle frame weldment (does not include wheels).

Install kit no. K05-0350-00 as shown in Illustrations B and C. Two plates must be added to each end of every axle frame.

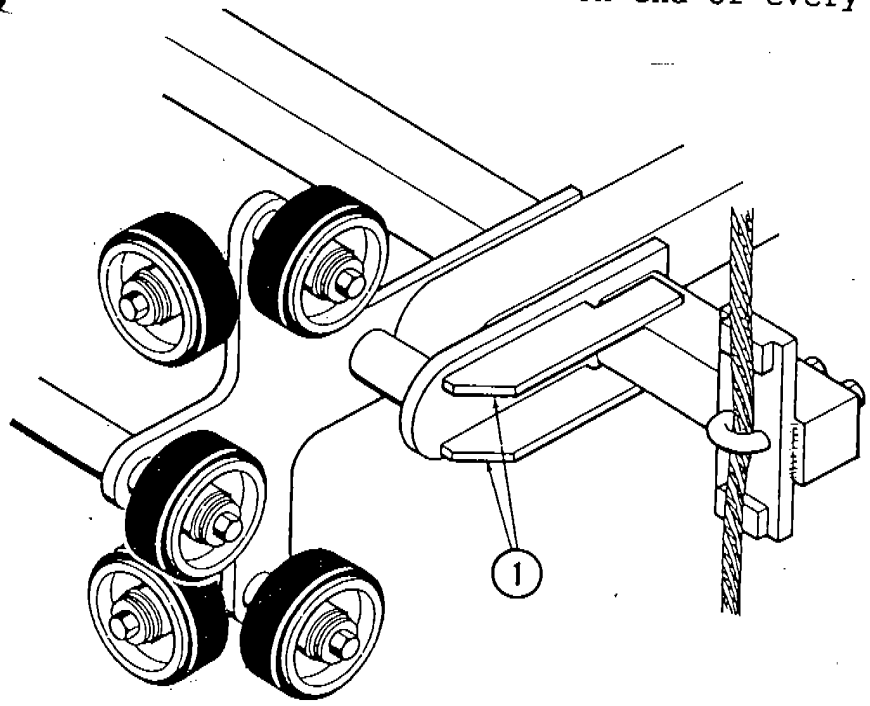


ILLUSTRATION B

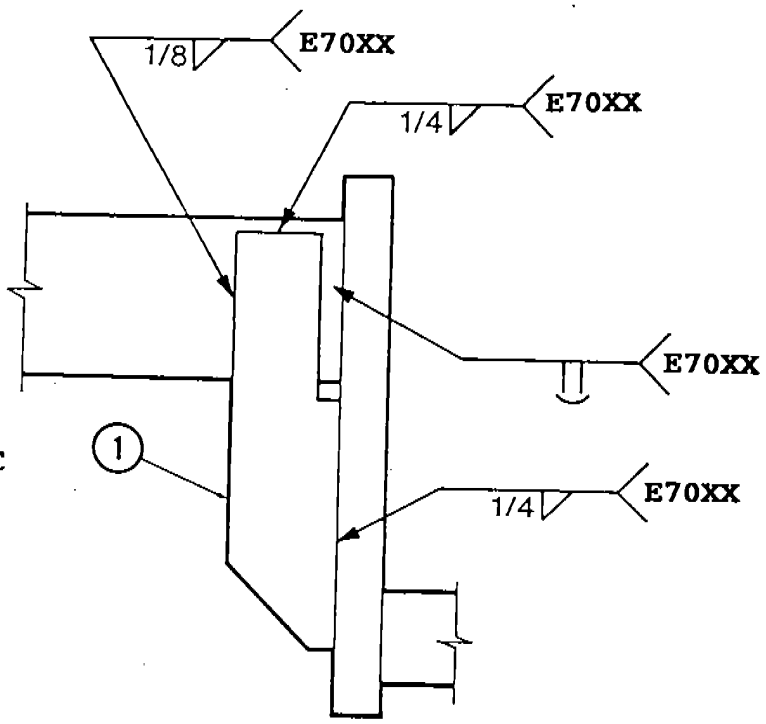


ILLUSTRATION C

PARTS LIST

Kit Number K05-0350-00 Axle Frame Rework

Item	Part No.	Description	Qty.
1	71531600	3/8 x 1-1/2 x 8" Plate	48

Number: B106R1048-0

Date: August 1, 1989

Supersedes:

America's Largest Manufacturer of Amusement Rides

SERVICE BULLETIN

Effective Serial Numbers: All Units

Ride: ZIPPER

Subject: Lap Bar Inspection

Lap bars on the ZIPPER are essential to passenger safety, and must be maintained properly. Operating the ride with worn or damaged lap bars, incorrect lap bars, wooden lap bars, or incorrectly mounted lap bars can result in injury to passengers.

CHANCE RIDES, INC. therefore requires the inspection of lap bars on all ZIPPER amusement rides, to ensure that all rides are equipped with the specified lap bars, and that the lap bars are properly installed.

Perform the inspection, using the instructions on the following pages of this bulletin. Return the attached Certification Of Compliance for the inspection within fifteen (15) days from receipt of this bulletin.

All work must be performed by competent, qualified mechanics, capable of understanding the function of the parts and their proper installation. If there are any questions regarding the instructions or this inspection, contact the CHANCE CUSTOMER SERVICE DEPARTMENT.

NOTE: Insert this bulletin into your Operation & Maintenance Manual for future reference.

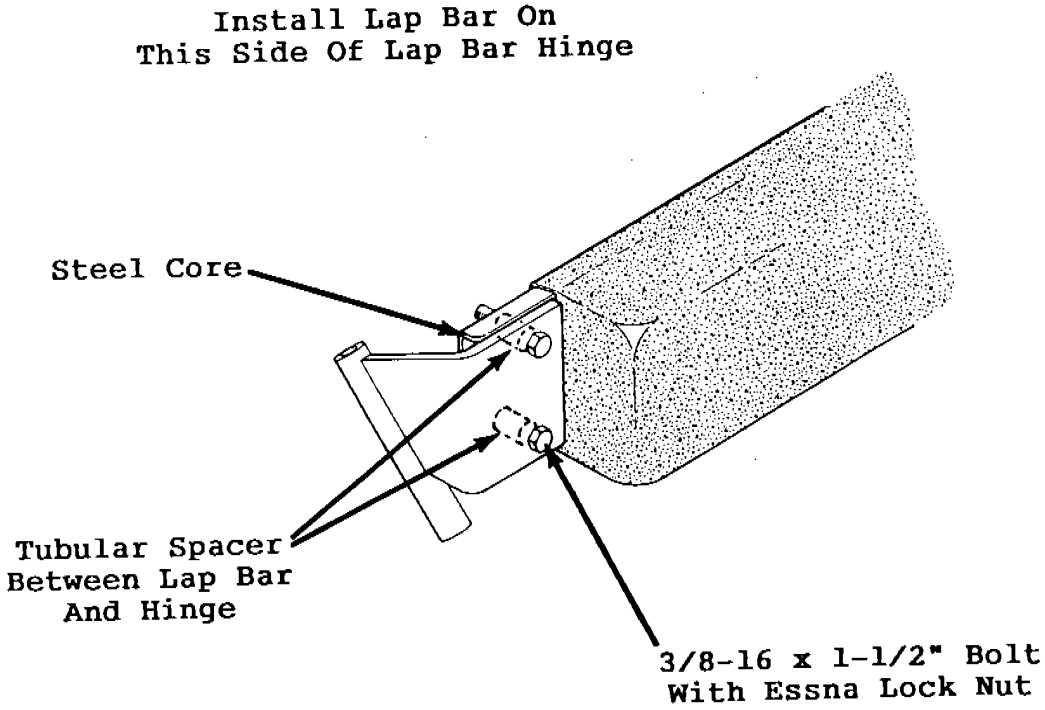
INSPECTION INSTRUCTIONS

Inspect the lap bar on every vehicle for the following:

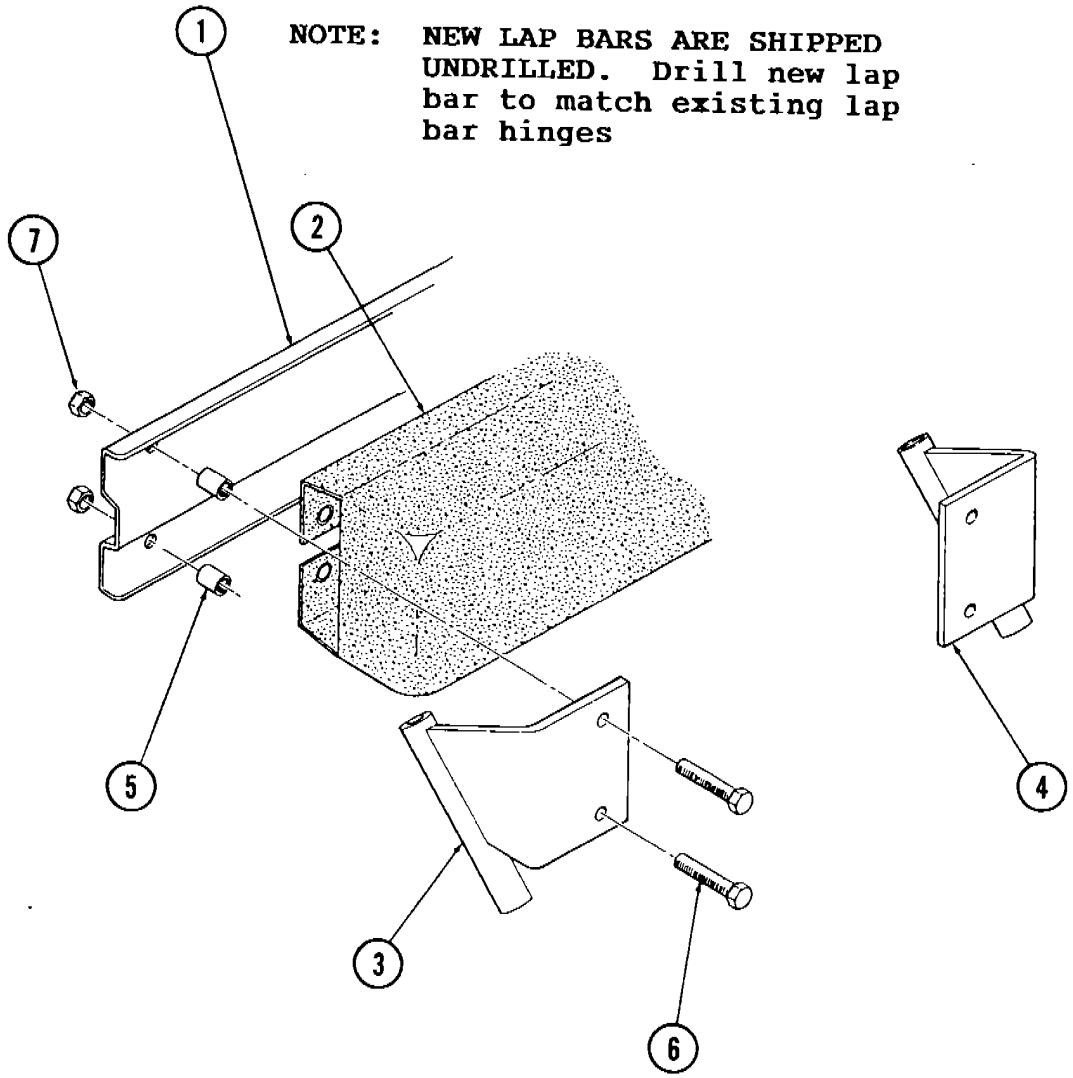
1. The lap bar must be identical to the lap bar shown below. The core must be formed steel. WOOD LAP BARS AND LAP BARS WITH "FORMED-FOAM" PADDING ARE NOT ALLOWED.

2. The lap bar must be installed exactly as shown. The bolts which fasten the lap bar to the lap bar hinge at each side must be 3/8-16 x 1-1/2" long, with the tubular spacer installed between the lap bar and the hinge. Tighten the mounting bolts to 19-24 ft-lbs.

3. Lap bar padding must be in good repair. Minor repairs to the replaceable factory padding are permissible, if its original size and shape are not altered.



NOTE: NEW LAP BARS ARE SHIPPED UNDRILLED. Drill new lap bar to match existing lap bar hinges



PARTS LIST

(Use this parts list to order any necessary parts)

Item	Part No.	Description	Qty. Reqd. Per Seat
1	30387700	STIFFENER BAR (1062615-001)	12
2	22079000	LAP BAR PAD (1081153-001)	12
3	33346500	LAP BAR HINGE (1062612-001)	1
4	33347200	LAP BAR HINGE (1062612-002)	1
5	37024400	SPACER - Tubular (1062637-001)	4
6	60767000	CAPSCREW - Hex Head (3/8-16 x 1-1/2)	4
7	64781600	LOCK NUT - Essna (3/8-16)	4

Number: B106R1040-0

Date: June 7, 1989

Supersedes:

America's Largest Manufacturer of Amusement Rides

SERVICE BULLETIN

Effective Serial Numbers: All Units

Ride: ZIPPER

Subject: Inspection And Rework Of Seat Support Frames

WARNING: FAILURE TO COMPLY WITH THIS SERVICE BULLETIN CAN RESULT IN FAILURE OF THE SEAT SUPPORT FRAMES, CAUSING INJURY TO PASSENGERS, AND/OR BYSTANDERS.

It has been determined by CHANCE RIDES, INC. that cracks can develop in ZIPPER seat support frames.

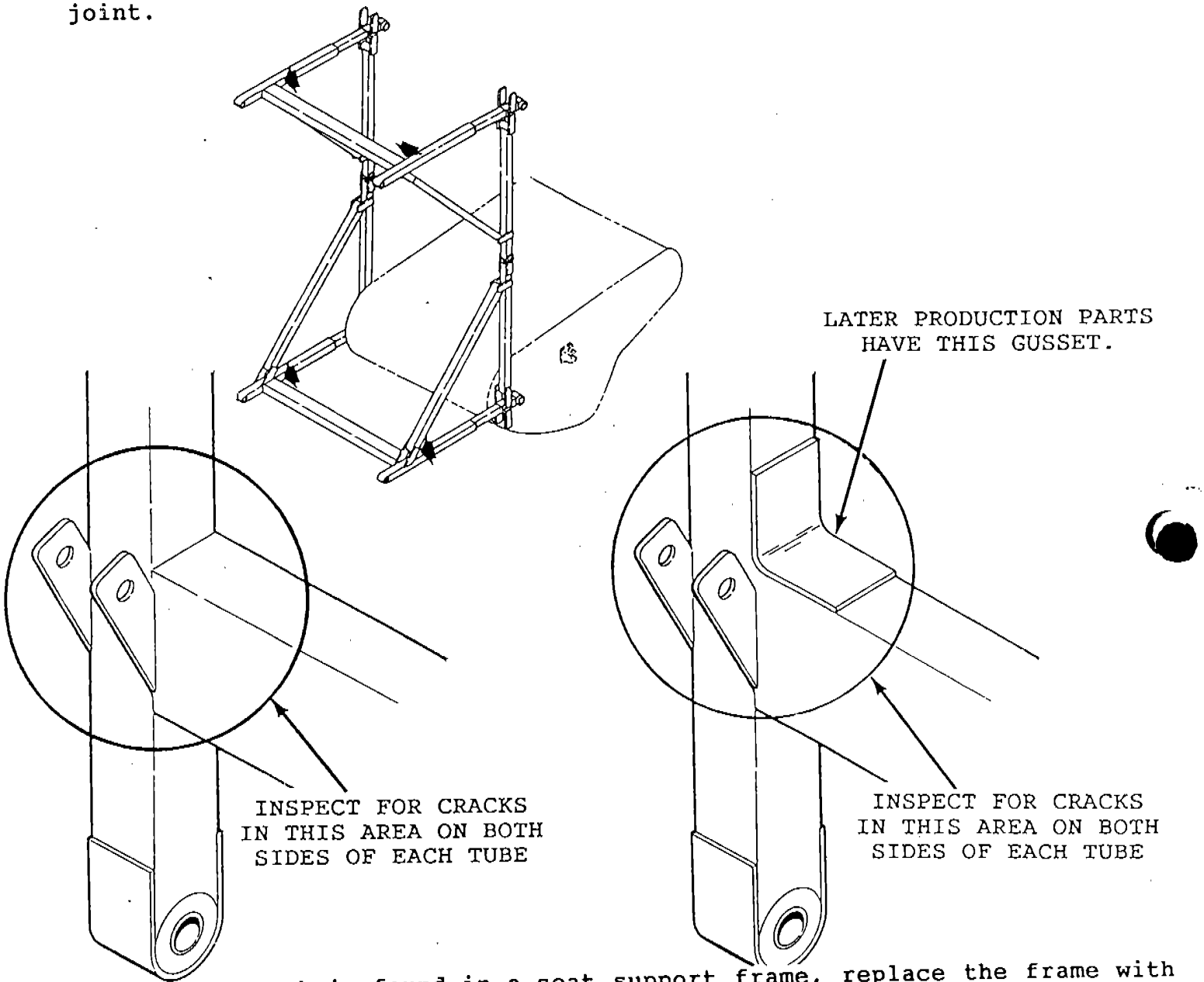
All owners of ZIPPER amusement rides are required to inspect their rides and if necessary, perform the rework described in this bulletin.

Perform the inspection using the instructions on the following pages of this bulletin. If rework is required, order Kit No. K05-0344-00 and install the kit using the instructions provided. The inspection and all work must be performed by qualified personnel, capable of understanding the function of the parts and their proper installation.

Return the attached Certification Of Compliance within 15 days from receipt of the bulletin. If there are any questions regarding the instructions or this inspection, contact the CHANCE CUSTOMER SERVICE DEPARTMENT.

INSPECTION PROCEDURE

Check each seat support frame (12 per ride) for cracks as shown in the following illustration. Inspect the weld and the tubing near the welded joint.



- <u>If a crack is found</u> in a seat support frame, replace the frame with a new part. Do not attempt to weld or otherwise repair a cracked seat support frame. **<u>DO NOT OPERATE THE RIDE.</u>**

- <u>If no cracks are present</u>, and the seat support frame does not have the reinforcing gusset, order Kit No. K05-0344-00. Install the kit using the following instructions.

IMPORTANT: Perform this inspection monthly or at every set-up, whichever occurs first.

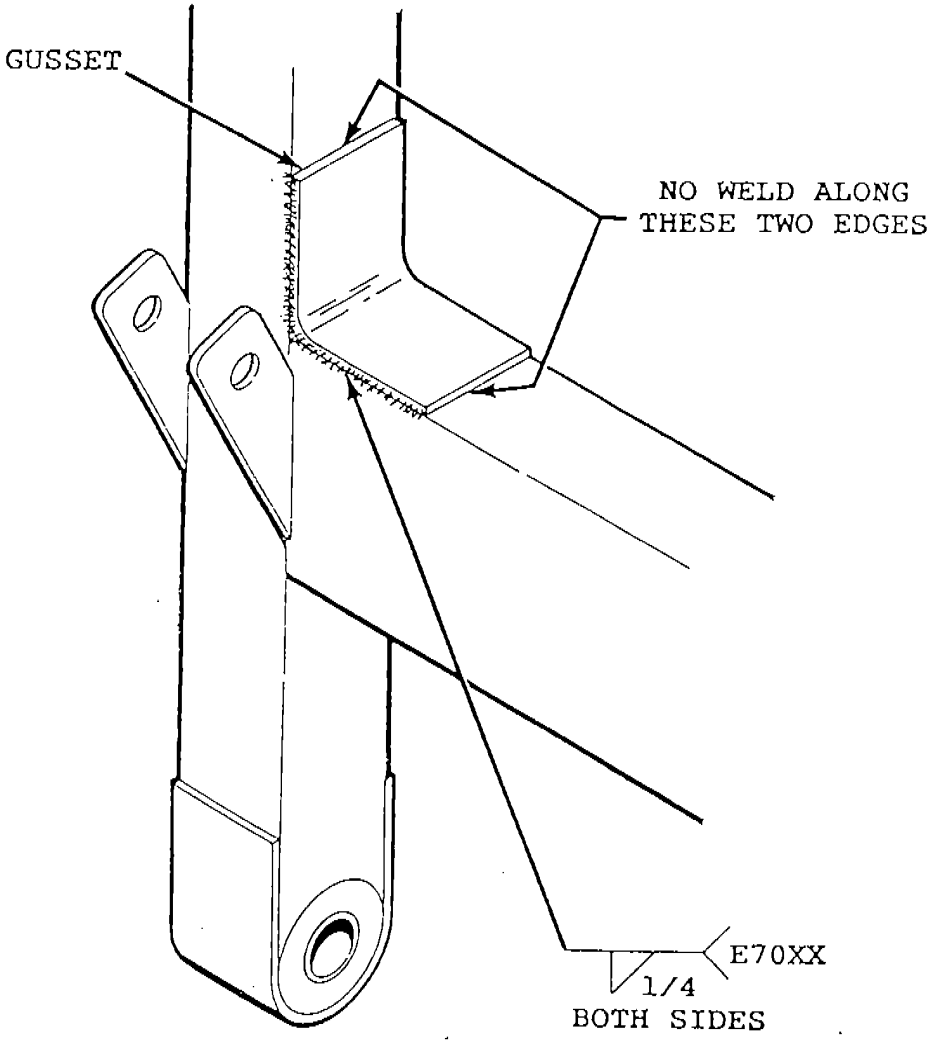
PARTS LIST

The following parts are included in Kit No. K05-0344-00, to rework one complete ride (12 seat support frames).

Part Number	Description	Qty. Reqd.
305-3191400	GUSSET - Seat Support Frame (1062500-032)	24

REWORK INSTRUCTIONS

All seat support frames must have the reinforcing gusset like later productions parts. Locate and weld the gusset two places on the seat support frame as shown.



Number: B106R1024-0

Date: Nov. 28, 1988

Supersedes:

America's Largest Manufacturer of Amusement Rides

SERVICE BULLETIN

Effective Serial Numbers: 106-125-86 And On

Ride: **ZIPPER**

Subject: Operation Of Shut-Off Valves For Hydraulic Leveling Jacks

As a safety precaution, CHANCE RIDES, INC. requires that the owners of all **ZIPPER** amusement rides instruct their employees to follow the correct procedure for operation of the shut-off valves for the hydraulic leveling jacks. Safety decals are enclosed with this bulletin to remind employees of these instructions.

Install the five decals (part no 277-2203200), one on each leveling jack and one near the shut-off valves. After the decals have been installed, always follow the recommended operating procedures.

⚠ WARNING

RETRACT THE HYDRAULIC LEVELING JACKS AND CLOSE SHUT-OFF VALVES FOR THE JACKS DURING NORMAL RIDE OPERATION.

If the valves are left open, hydraulic pressure from the drive system, or pressure from hydraulic oil expanding due to heat can cause one or more of the jacks to extend, making the ride unstable. Injuries to passengers and/or bystanders can result.

Factory and Sales Office: 4219 Irving · P.O. Box 12328 · Wichita, Kansas 67277-2328 · (316) 942-7411 · Telex: 910 997-6518 (CHANCE WIC)

Number: B106R1014-O

Date: September 9, 1987

Supersedes:

America's Largest Manufacturer of Amusement Rides

SERVICE BULLETIN

Effective Serial Numbers: All Units

Ride: ZIPPER

Subject: Seat Hanger Pins

Recent field inspections have found ZIPPER seat hanger pins secured with hairpins which are worn, sprung or of the wrong size.

CHANCE RIDES, INC. now requires the use of special capscrews and nuts to secure the seat hanger pin on the seats which rack in place on the boom. On some early production rides, two seats are removed for racking on the trailer deck. The pins for these two seats must be secured with snapper pins. Refer to the illustration and instructions on the reverse side of this bulletin.

All work must be done by competent qualified mechanics, capable of understanding the function of the parts and their proper installation. If you have any questions regarding these instructions, contact the CHANCE CUSTOMER SERVICE DEPARTMENT.

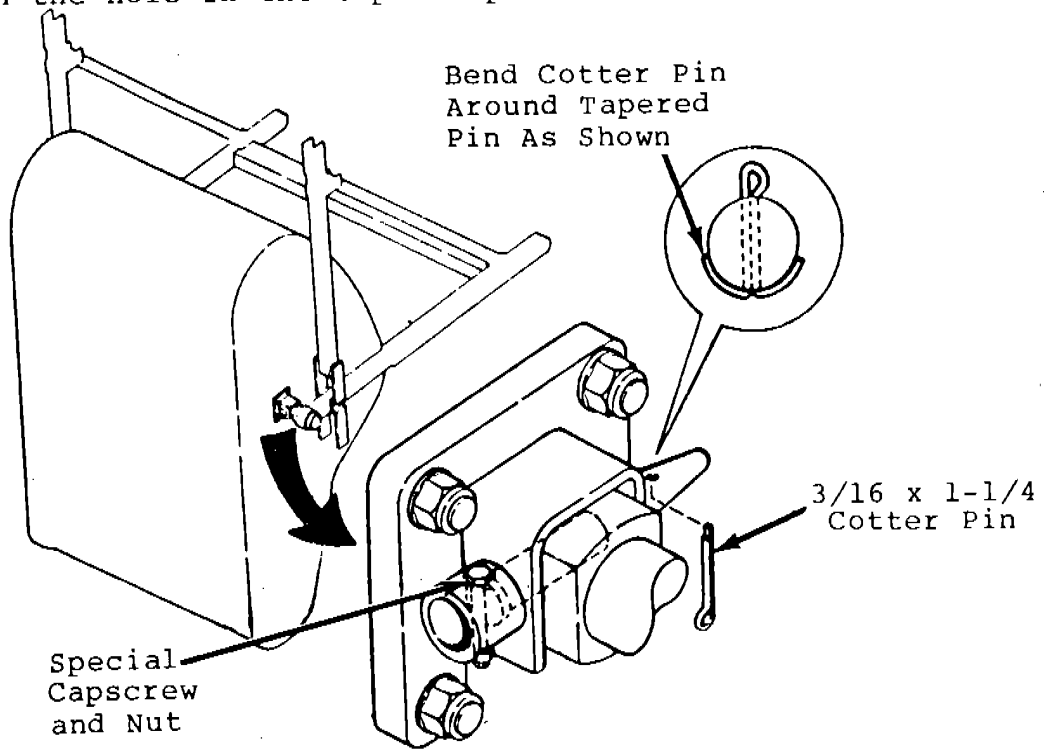
Order the following parts as required:

Quantity Reqd. Per Ride	Part Number	Description
24	690-12270	Capscrew - Special
24	691-48043	Nut - Flexlock (1/4-28)
4*	290-52321	Snapper Pin (1/4)
24	699-51652	Cotter Pin (3/16 x 1-1/4)

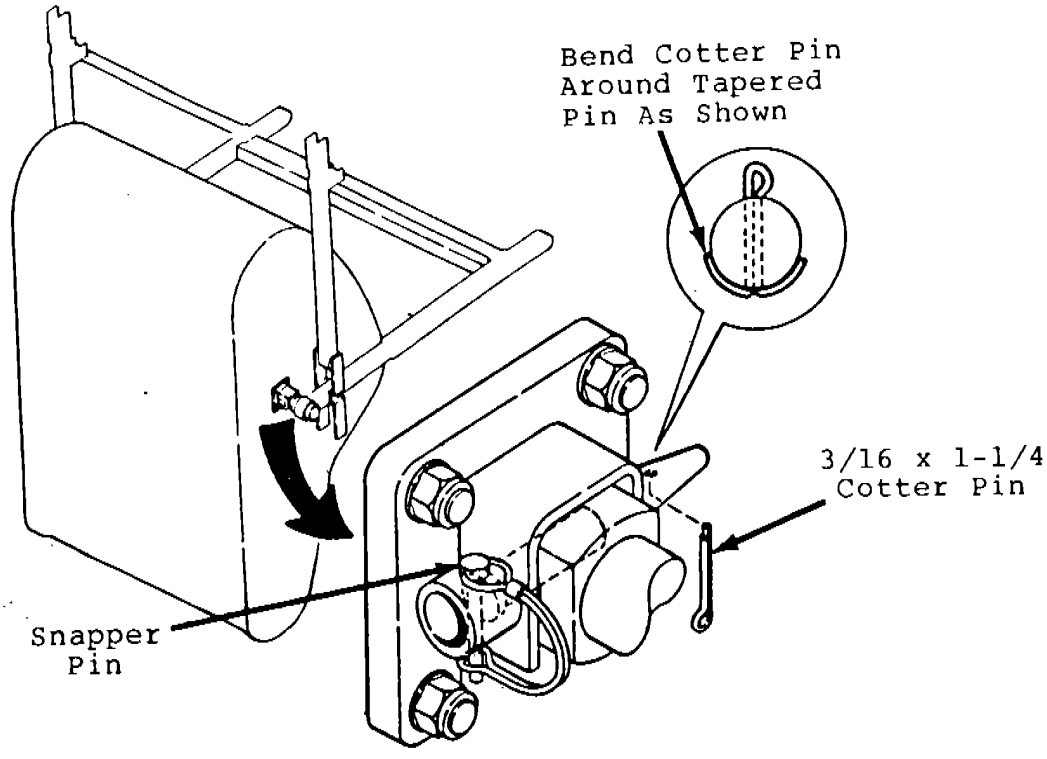
* Snapper pin is used only on rides which rack two seats on the trailer deck. When used, reduce the quantity of special capscrews and nuts to 20.

INSTALLATION INSTRUCTIONS

1. Install the special capscrew through the tube in the seat hanger, behind the head of the tapered pin as shown on ALL the seats which rack in place on the boom. Tighten the nut until two or three capscrew threads protrude from the lock ring on the nut. DO NOT OVERTIGHTEN. Install the 3/16 x 1-1/4 cotter pin as shown IN ADDITION TO THE CAPSCREW. Do not install a hairpin in the hole in the tapered pin.



2 If your ride has two (2) seats which rack on the trailer deck, install the snappper pins through the tube in the seat hanger, behind the head of the tapered pin as illustrated. Install the 3/16 x 1-1/4 cotter pin IN ADDITION TO THE SNAPPER PIN. Do not install a hairpin in the hole in the tapered pin.



Number: B106R1013-0

Date: September 9, 1987

Supersedes:

America's Largest Manufacturer of Amusement Rides

SERVICE BULLETIN

Effective Serial Numbers: All Units

Ride: ZIPPER

Subject: Track Spacers

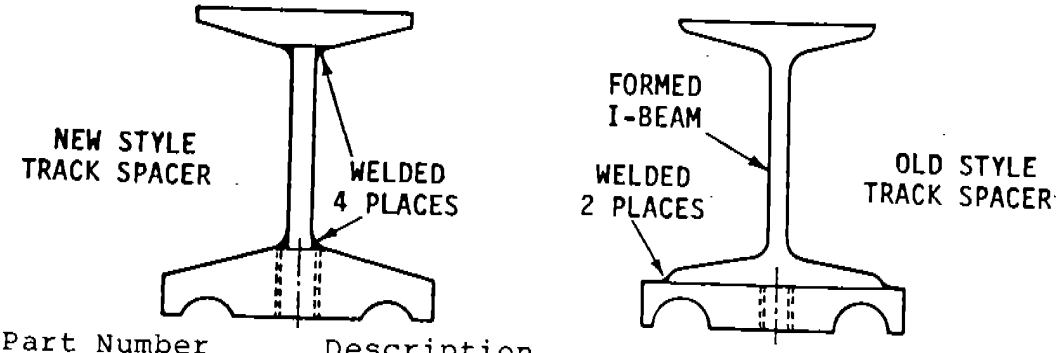
As a safety precaution, CHANCE RIDES, INC. requires that the owners of all ZIPPER amusement rides replace the track spacers between the straight and curved track sections at each end of the boom. A heavy, fabricated spacer is now available to replace the formed I-beam spacer previously used (See illustration).

AFTER JANUARY 1, 1988, DO NOT OPERATE THE RIDE WITH THE OLD STYLE TRACK SPACERS INSTALLED.

All work must be performed by qualified, competent mechanics, capable of understanding the function of the parts and their proper installation.

Remove all old style track spacers from rides, and replace with the new style 1-1/2, 2, 2-1/2, and 3-inch spacers. Be sure to use the correct size attach plate for each track spacer. Refer to the instructions on Service Bulletin B106R1008-0 and the procedure in the operation manual.

Fill out and return the attached Certification Of Compliance for the procedure no later than January 1, 1988.



Part Number	Description
305-69871	TRACK SPACER - 1-1/2" Long (1062171-015)
305-70093	TRACK SPACER - 2" Long (1062171-004)
305-69870	TRACK SPACER - 2-1/2" Long (1062171-006)
305-70094	TRACK SPACER - 3" Long (1062171-005)
305-53350	ATTACH PLATE - 1-1/2" Long (1062170A032)
305-53871	ATTACH PLATE - 2" Long (1062170A019)
305-53349	ATTACH PLATE - 2/1/2" Long (1062170A031)
305-53349	ATTACH PLATE - 3" Long (1062170A018)

Factory and Sales Office: 4219 Irving · P.O. Box 12328 · Wichita, Kansas 67277-2328 · (316) 942-7411 · Telex: 910 997-6518 (CHANCE WIC)

Number:B106R1008-0

Date:April 27, 1987

Supersedes:

America's Largest Manufacturer of Amusement Rides

SERVICE BULLETIN

Effective Serial Numbers: 106-117-86 through 106-128-87

Ride: ZIPPER

Subject: Track Spacers

As a safety precaution, CHANCE RIDES, INC. requires that the owners of ZIPPER amusement rides with the above noted serial numbers inspect the track spacers between the straight and curved track sections at each end of the boom, and remove all 1-inch track spacers.

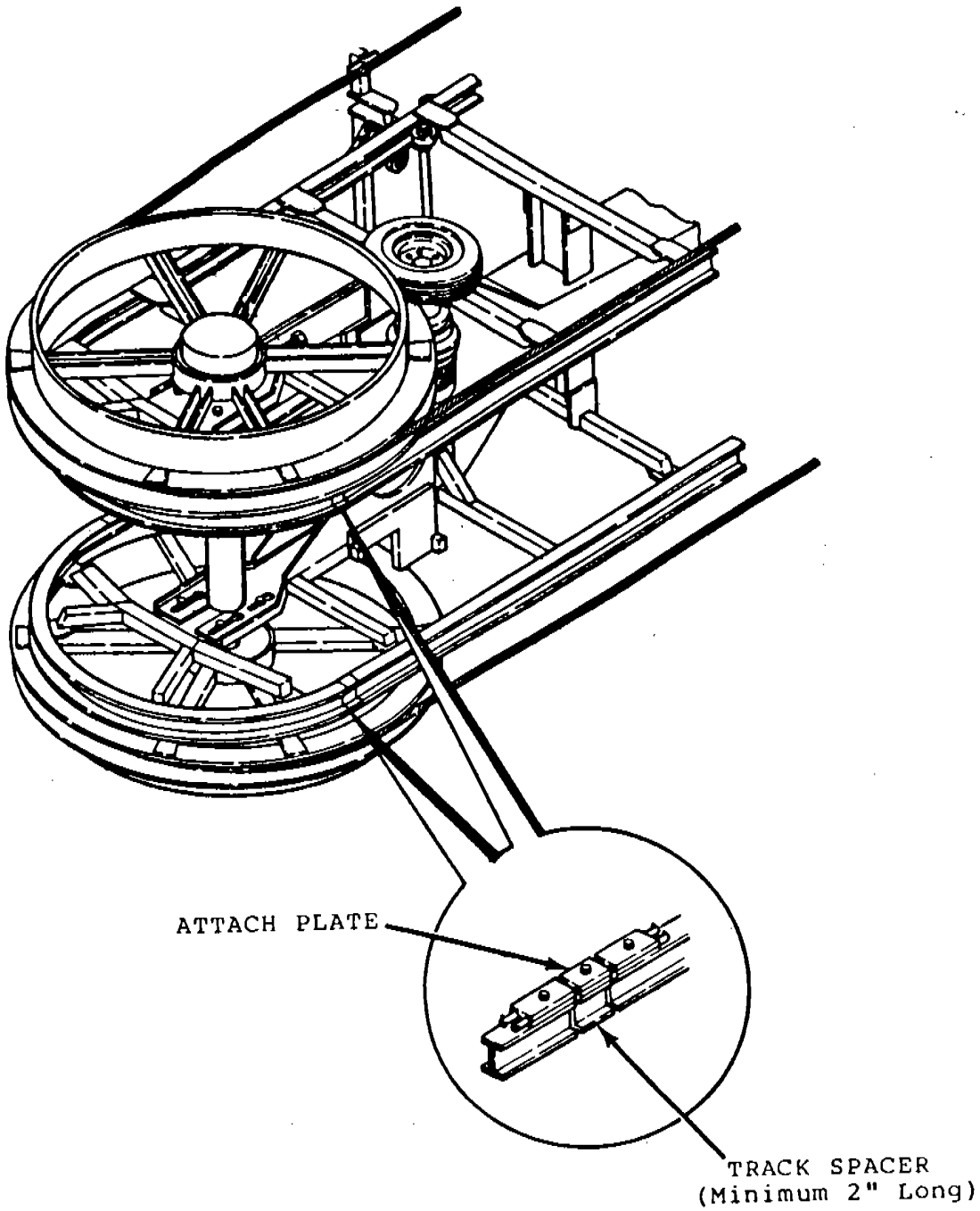
DO NOT OPERATE THE RIDE WITH ONE-INCH TRACK SPACERS INSTALLED.

All work must be performed by qualified, competent mechanics, capable of understanding the function of the parts and their proper installation.

Remove all 1" track spacers from rides, and replace with the existing 2-inch or longer spacers (Provided in pin box when ride was delivered from factory). Be sure to use the appropriate size attach plate for each track spacer. See the instructions on Page 3 of this bulletin and the procedure in the operation manual.

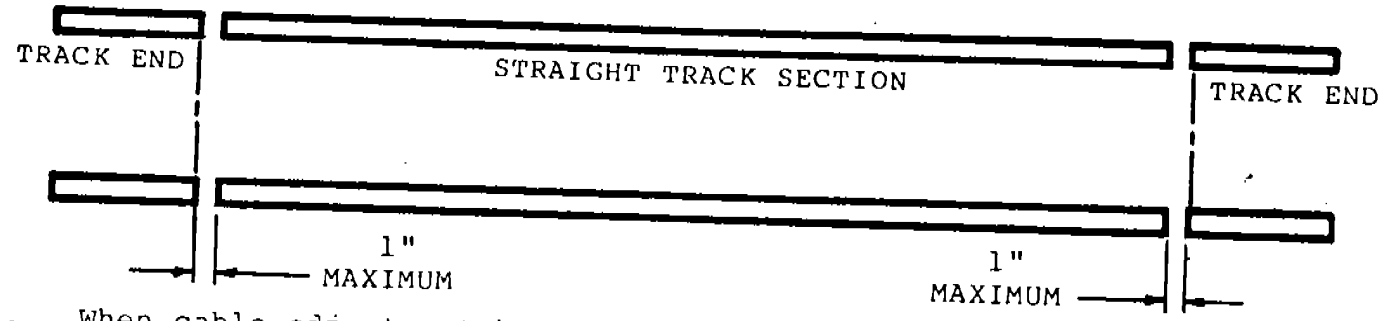
If the cable has not stretched enough to allow installation of the 2" spacer, a space of up to 1 inch is allowable at each end of the boom between the straight and curved sections of track.

Fill out and return the attached Certification Of Compliance for the procedure within fifteen (15) days from receipt of this bulletin.

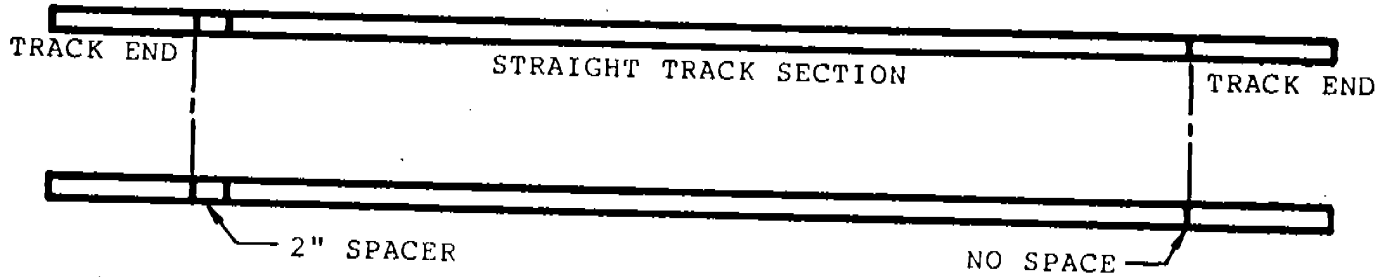


Part Number	Description
305-70093	TRACK SPACER - 2" Long (1062171-004)
305-53870	ATTACH PLATE - 2" Long (1062170A018)
305-70094	TRACK SPACER - 3" Long (1062171-005)
305-53871	ATTACH PLATE - 3" Long (1062170A019)

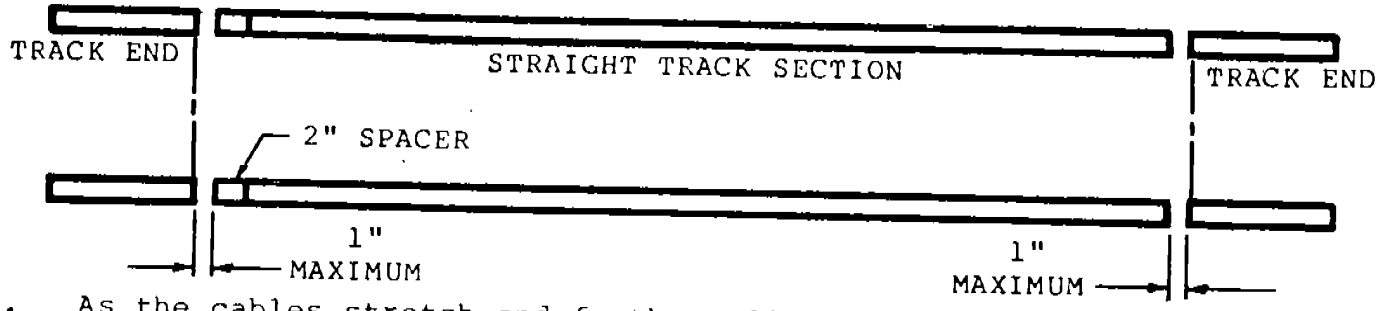
ADJUSTMENT PROCEDURE



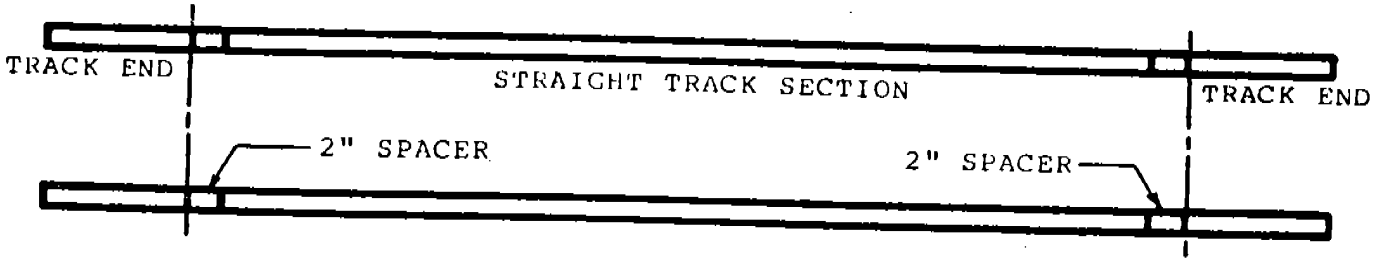
1. When cable adjustment becomes necessary, adjust the curved track ends equally on both ends of the boom, allowing no more than 1 inch spaces at each end as shown in the illustration above. (Rides leave the factory with approximately 1/2 inch spaces at each end.)



2. When the cables have stretched enough that the maximum 1 inch space is reached at both ends of the boom, adjust the curved track ends at one end of the boom completely inward, so that there is no space between the straight and curved track sections. Install the 2 inch track spacers in the other end of the boom.



3. As the cables stretch and further adjustment is required, spaces of up to 1 inch are allowable as shown.



4. When cable stretch permits, adjust the space out of the end with spacers, and install 2 inch spacers in the opposite end of the boom.

5. Continue this adjustment procedure with 3 inch spacers as future adjustment becomes necessary.

Number: B106R1007-0

Date: April 27, 1987

Supersedes:

America's Largest Manufacturer of Amusement Rides

SERVICE BULLETIN

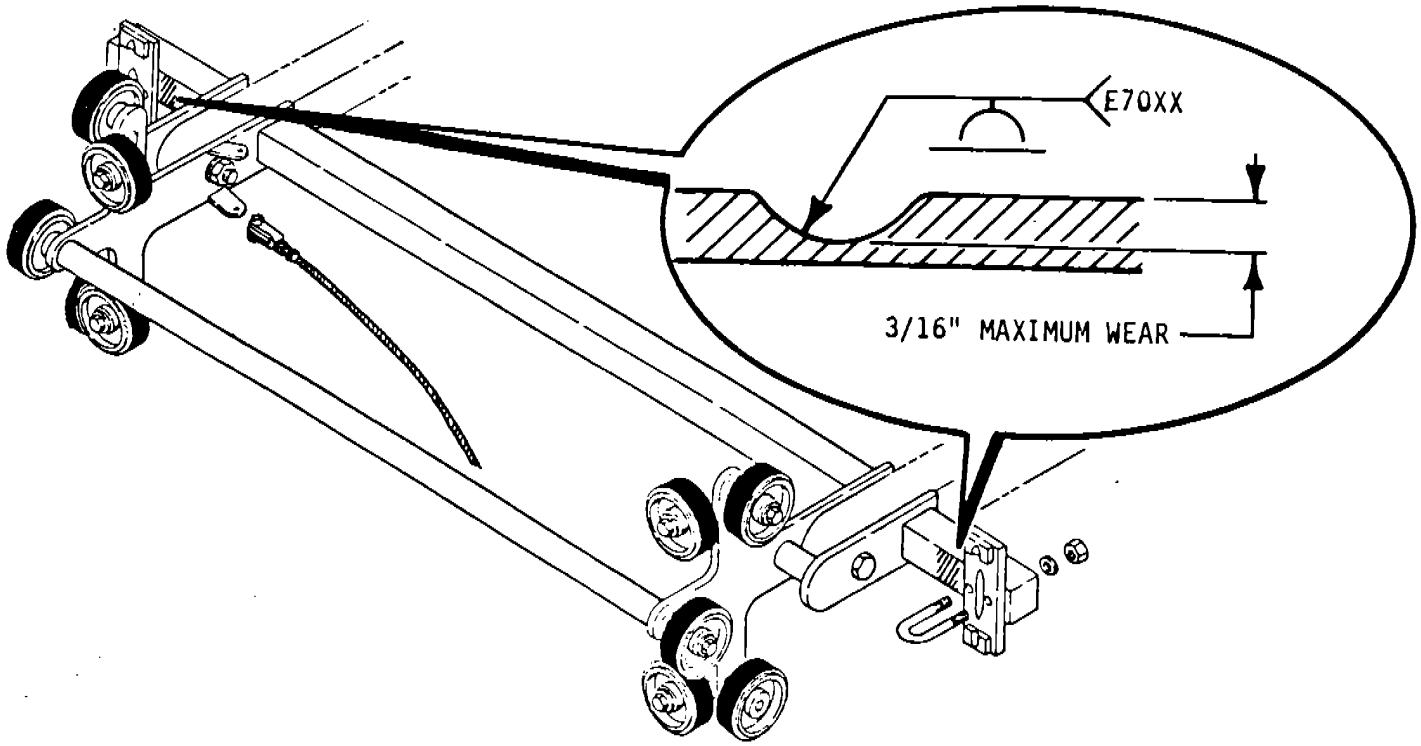
Effective Serial Numbers: All Units

Ride: ZIPPER

Subject: Seat Support Axle Inspection

CHANCE RIDES, INC. has received reports from the field of wear on the seat support axle frame near the cable clamps on ZIPPER amusement rides. This wear is caused by occasional contact with the cable sheave during operation.

If the wear is no deeper than 3/16", it can be corrected by welding the worn area and grinding the entire repaired area smooth as shown. All work must be done by competent, qualified mechanics, capable of understanding the function of the parts and their proper installation. All welding must be done by a certified welder.



If this type of wear occurs frequently, or the amount of wear is severe, contact the CHANCE CUSTOMER SERVICE DEPARTMENT for further corrective measures.

Factory and Sales Office: 4219 Irving · P.O. Box 12328 · Wichita, Kansas 67277-2328 · (316) 942-7411 · Telex: 910 997-6518 (CHANCE WIC)

Number: B106R1006-0

Date: April 27, 1987

Supersedes:

America's Largest Manufacturer of Amusement Rides

SERVICE BULLETIN

Effective Serial Numbers: 106-117-86 through 106-128-87

Ride: ZIPPER

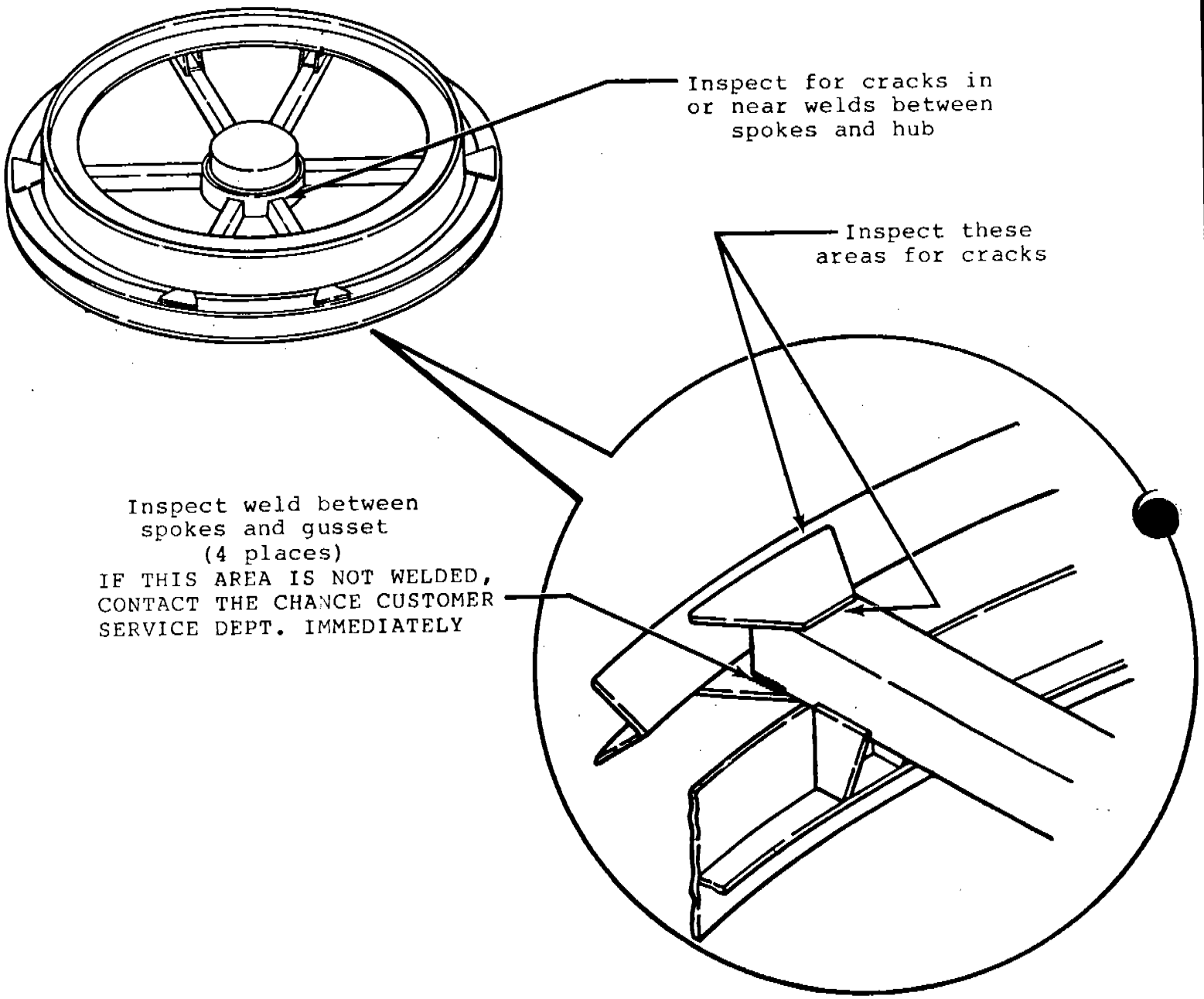
Subject: Cable Sheave Inspection

CHANCE RIDES, INC. has become aware of at least one ZIPPER ride in the field which developed cracks in the welded area of the cable sheave. As a safety precaution, CHANCE is requiring the inspection of the cable sheaves on all ZIPPER amusement rides with the above noted serial numbers.

Complete the cable sheave inspection using the instructions on the reverse side of this bulletin. Fill out and return the attached Certification Of Compliance for the procedure within fifteen (15) days from receipt of this bulletin.

INSPECTION OF CABLE SHEAVES

READ THESE INSTRUCTIONS THOROUGHLY AND BECOME FAMILIAR WITH THE ENTIRE PROCEDURE. All work must be performed by competent, qualified mechanics, capable of understanding the function of the parts and their proper installation.



1. Inspect the cable sheave for cracks where the spokes weld to the hub. The weld must go completely around the spoke on all four sides.

2. Inspect for cracks where the spokes attach to the gussets around the outer rim. The welded areas must be exactly as shown and described in the illustration. Make sure there is a weld at all four places on each spoke.

3. IF ANY CRACKS ARE FOUND, OR IF ANY WELDS ARE QUESTIONABLE, CONTACT THE CHANCE CUSTOMER SERVICE DEPARTMENT IMMEDIATELY.

Number: B05-0359-00

Date: Feb. 9, 1990

Supersedes:

America's Largest Manufacturer of Amusement Rides

SERVICE BULLETIN

Effective Serial Numbers: ALL UNITS

Ride: ZIPPER

Subject: Inspection of Boom and Spindle Area

Chance Manufacturing Co., Inc. has become aware of a ZIPPER amusement ride in which cracks have developed in the area around the spindle where it attaches to the boom. All ZIPPER owners are required to perform the inspection on the spindle area as described on the reverse side of this bulletin. The Certification Of Compliance must be filled in and returned to Chance Manufacturing Co., Inc. within 15 days from receipt of this bulletin.

This inspection should be performed on an annual basis.

The inspection must be performed by qualified personnel, capable of understanding the function of the parts and their proper installation. If there are any questions regarding the instructions or this inspection, contact the Chance Customer Service Department.

NOTICE

USE ONLY THOSE COMPONENTS AUTHORIZED, SPECIFIED OR PROVIDED BY THE MANUFACTURER. IF ANY ALTERATIONS AND/OR MODIFICATIONS OR ADDITIONS AND INSTALLATIONS OF UNAUTHORIZED COMPONENTS ARE MADE TO THE ORIGINAL DESIGN WITHOUT THE MANUFACTURER'S EXPLICIT WRITTEN CONSENT OR WITHOUT DIRECT SUPERVISION BY A MANUFACTURER'S REPRESENTATIVE, CHANCE MANUFACTURING CO., INC. MAKES NO CLAIMS AS TO THE INTEGRITY OF THE ALTERED OR MODIFIED RIDE.

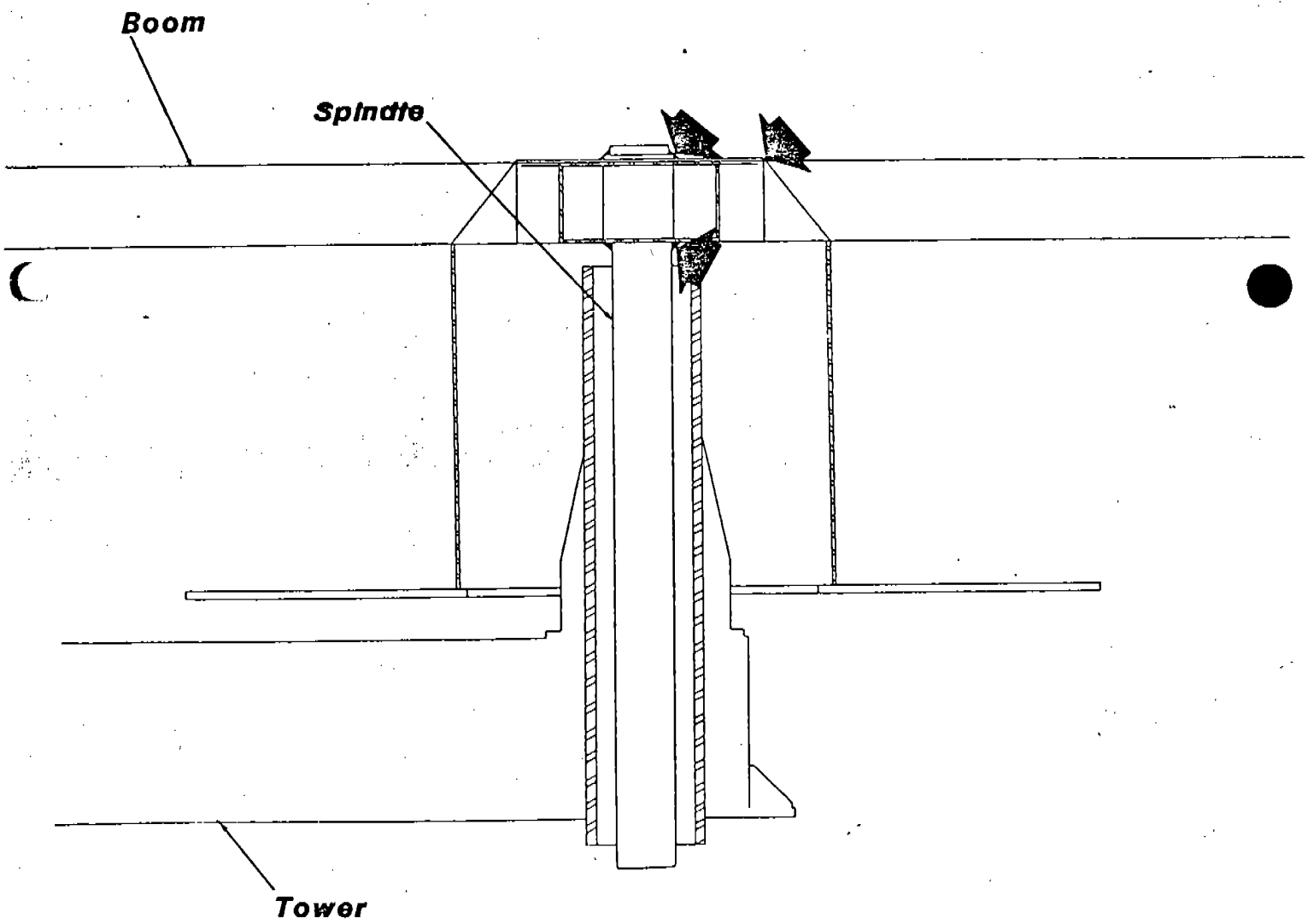
Inspection Procedures

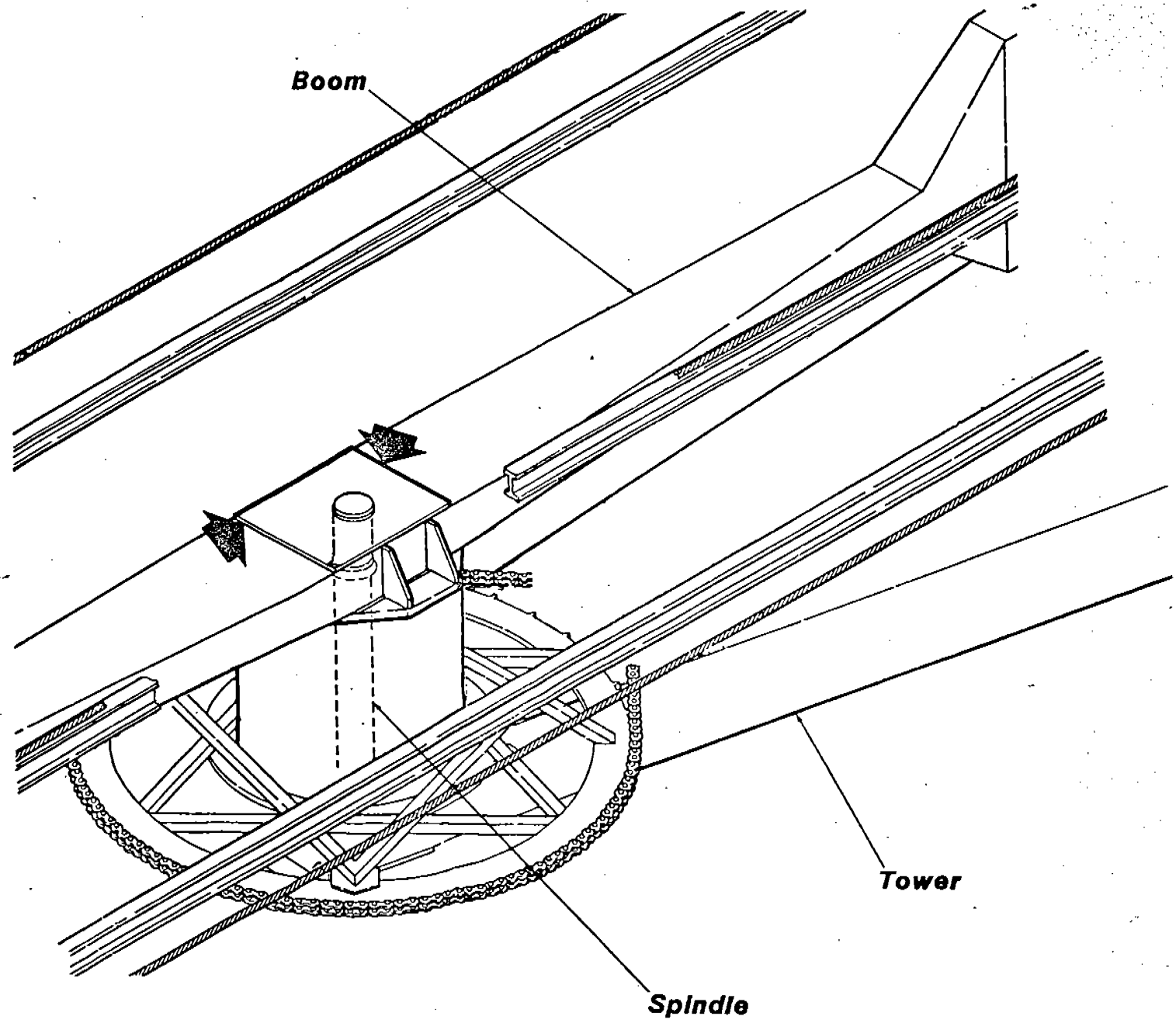
1. With the ride in the roading position, clean all weld areas with suitable solvent to remove dirt and grease residues.

2. Inspect all weld areas for cracks as shown in the following illustrations.

3. Inspection should be done from the inside as well as the outside of the boom area.

4. If any cracks are found, DO NOT ATTEMPT TO REPAIR OR REWELD THEM, contact Chance Customer Service immediately. DO NOT OPERATE THE RIDE UNTIL CHANCE CUSTOMER SERVICE HAS BEEN NOTIFIED.




Boom
Tower
Spindle

Number: B05-0350-00

Date: Feb. 1, 1990

Supersedes:

America's Largest Manufacturer of Amusement Rides

SERVICE BULLETIN

Effective Serial Numbers: All Units with a manufacturing date that is one year old or older

Ride: ZIPPER

Subject: AXLE FRAME INSPECTION AND REINFORCEMENT PLATE KIT

Proper alignment of the axles frames is essential to smooth operation and long service life of all components. If the ride is operated with misalignment, the axle frames can develop cracks, and eventually fail, resulting in possible injury to passengers.

As a safety precaution, Chance Manufacturing Co., Inc. requires that all ZIPPER amusement ride axle frames be inspected and kit no. K05-0350-00 be installed.

Perform the inspection and the addition of kit no. K05-0350-00, using the instructions on the reverse side of this bulletin. Return the attached Certification Of Compliance for this work within fifteen (15) days from receipt of the kit.

NOTICE

All work must be performed by qualified personnel, capable of understanding the function of the parts and their proper installation.

Use only those components authorized, specified or provided by the manufacturer. If any alterations and/or modifications or additions and installations of unauthorized components are made to the original design without the manufacturer's explicit written consent or without direct supervision by a manufacturer's representative, Chance Manufacturing Co., Inc. makes no claim as to the integrity of the altered or modified ride.

Inspection Instructions

Inspect both ends of each axle frame for cracks as shown in Illustration A.

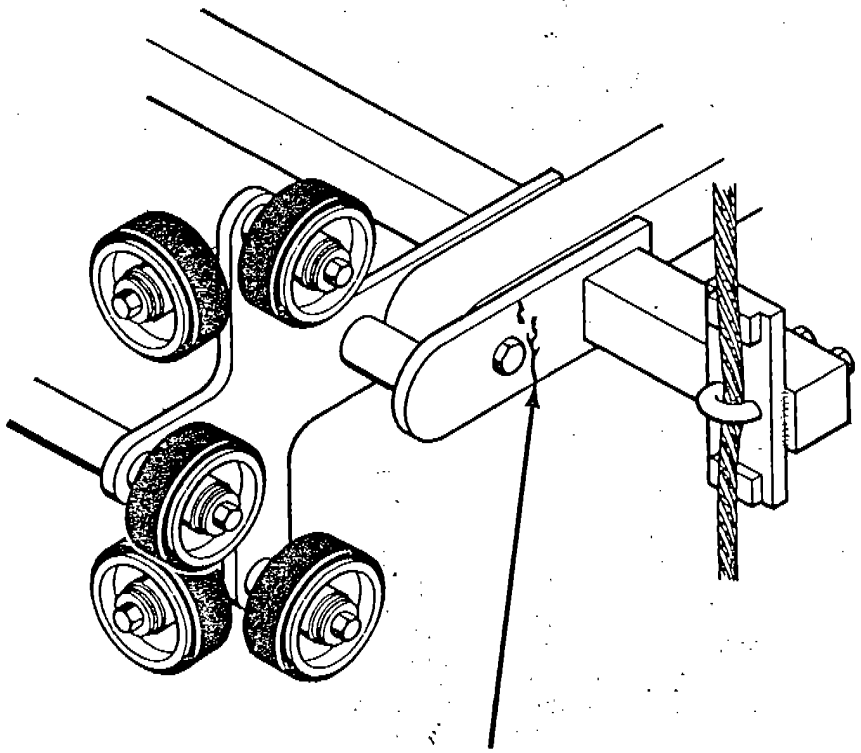


ILLUSTRATION A

If cracks are found, replace the axle frame with a new part. Do not attempt to weld or otherwise repair a cracked axle frame. Order part number 305-03240 for a new axle frame weldment (does not include wheels).

Install kit no. K05-0350-00 as shown in Illustrations B and C. Two plates must be added to each end of every axle frame.

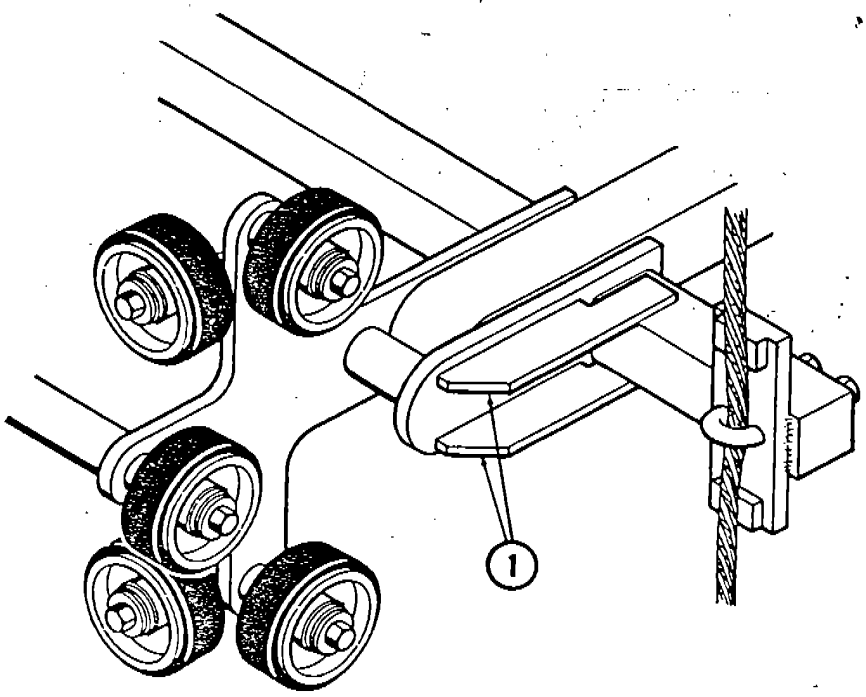


ILLUSTRATION B

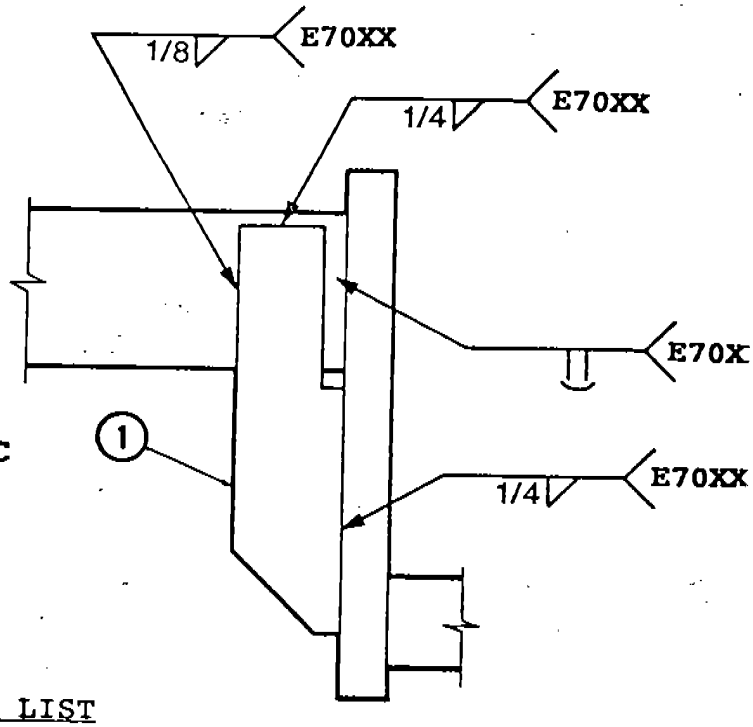


ILLUSTRATION C

PARTS LIST

Kit Number K05-0350-00 Axle Frame Rework

Item	Part No.	Description	Qty.
1	71531600	3/8 x 1-1/2 x 8" Plate	48

Number: B05-0347-00

Date: August 1, 1989

Supersedes:

America's Largest Manufacturer of Amusement Rides

SERVICE BULLETIN

Effective Serial Numbers: All Units

Ride: ZIPPER

Subject: Lap Bar Inspection

Lap bars on the ZIPPER are essential to passenger safety, and must be maintained properly. Operating the ride with worn or damaged lap bars, incorrect lap bars, wooden lap bars, or incorrectly mounted lap bars can result in injury to passengers.

CHANCE MANUFACTURING CO., INC. therefore requires the inspection of lap bars on all ZIPPER amusement rides, to ensure that all rides are equipped with the specified lap bars, and that the lap bars are properly installed.

Perform the inspection, using the instructions on the following pages of this bulletin. Return the attached Certification Of Compliance for the inspection within fifteen (15) days from receipt of this bulletin.

All work must be performed by competent, qualified mechanics, capable of understanding the function of the parts and their proper installation. If there are any questions regarding the instructions or this inspection, contact the CHANCE CUSTOMER SERVICE DEPARTMENT.

NOTE: Insert this bulletin into your Operation & Maintenance Manual for future reference.

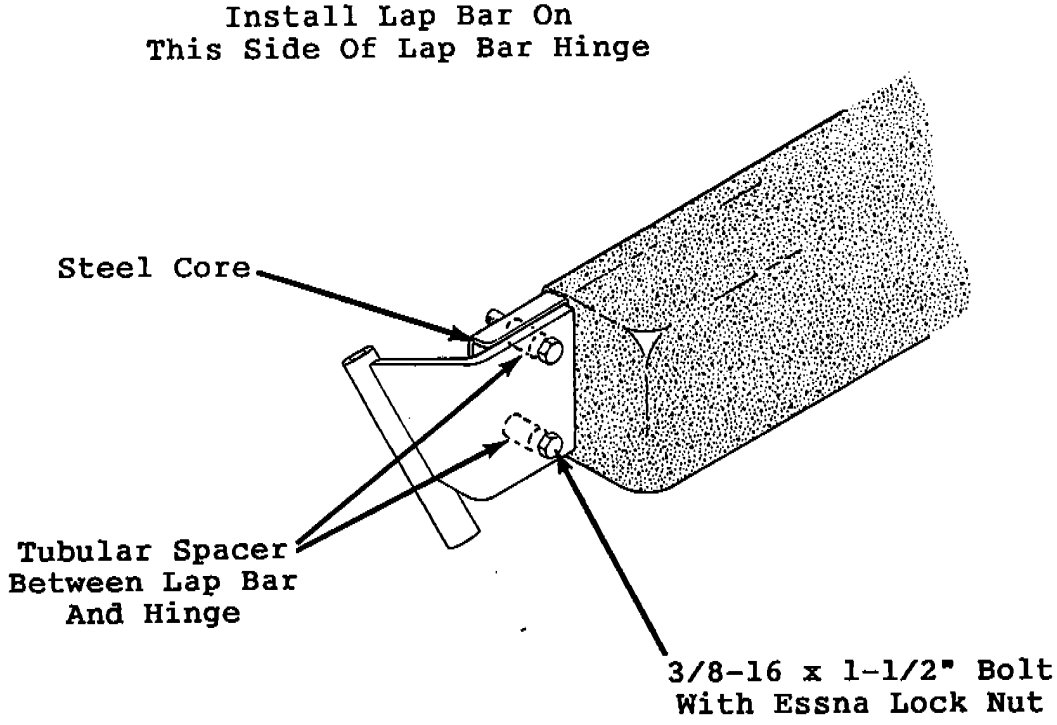
INSPECTION INSTRUCTIONS

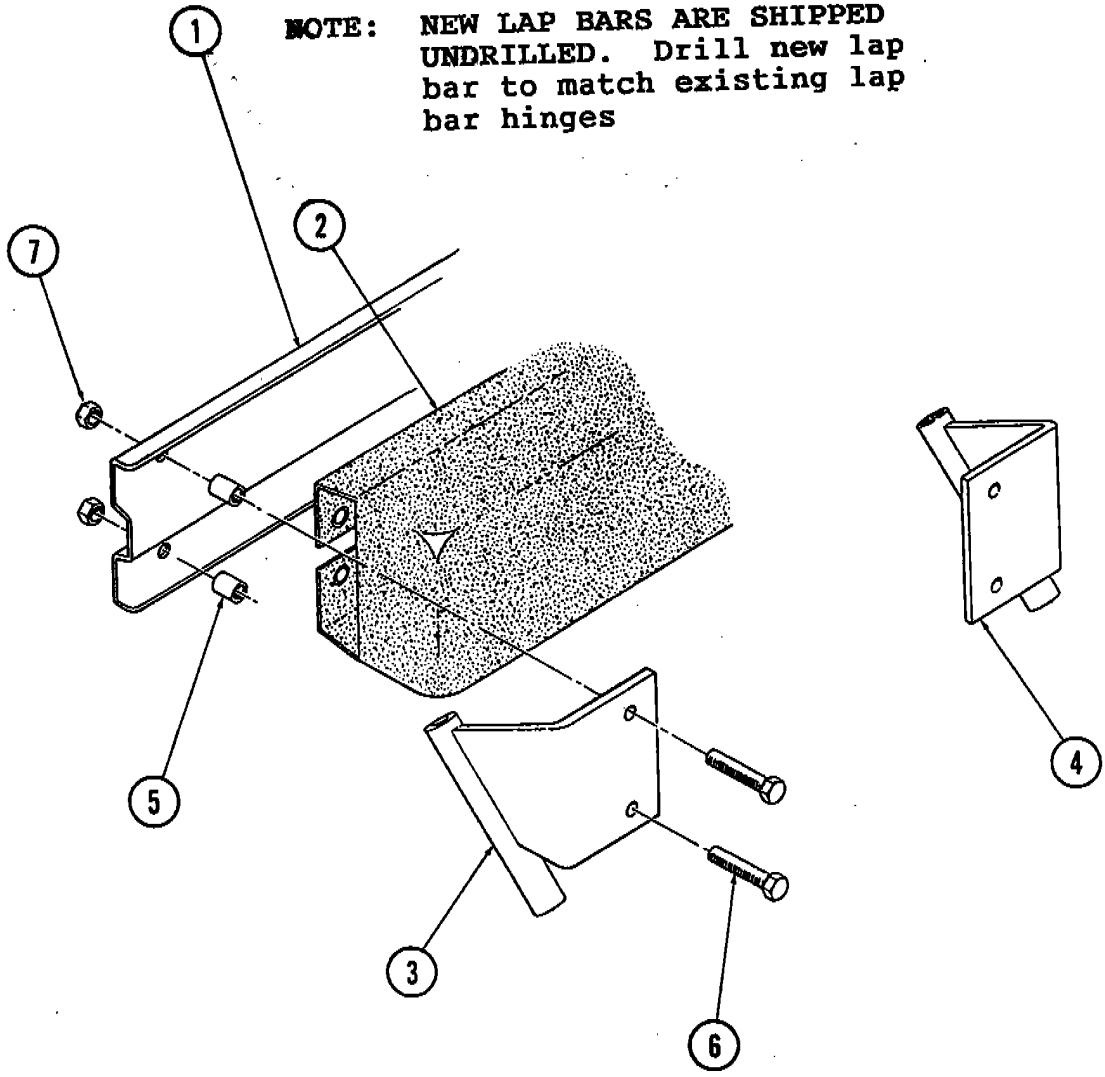
Inspect the lap bar on every vehicle for the following:

1. The lap bar must be identical to the lap bar shown below. The core must be formed steel. WOOD LAP BARS AND LAP BARS WITH "FORMED-FOAM" PADDING ARE NOT ALLOWED.

2. The lap bar must be installed exactly as shown. The bolts which fasten the lap bar to the lap bar hinge at each side must be 3/8-16 x 1-1/2" long, with the tubular spacer installed between the lap bar and the hinge. Tighten the mounting bolts to 19-24 ft-lbs.

3. Lap bar padding must be in good repair. Minor repairs to the replaceable factory padding are permissible, if its original size and shape are not altered.





NOTE: NEW LAP BARS ARE SHIPPED UNDRILLED. Drill new lap bar to match existing lap bar hinges

PARTS LIST

(Use this parts list to order any necessary parts)

Item	Part No.	Description	Qty. Reqd. Per Seat
1	30387700	STIFFENER BAR (1062615-001)	1
2	22079000	LAP BAR PAD (1081153-001)	1
3	33346500	LAP BAR HINGE (1062612-001)	1
4	33347200	LAP BAR HINGE (1062612-002)	1
5	37024400	SPACER - Tubular (1062637-001)	4
6	60767000	CAPSCREW - Hex Head (3/8-16 x 1-1/2)	4
7	64781600	LOCK NUT - Essna (3/8-16)	4

Number: B05-0344-00

Date: June 7, 1989

Supersedes:

America's Largest Manufacturer of Amusement Rides

SERVICE BULLETIN

Effective Serial Numbers: All Units

Ride: ZIPPER

Subject: Inspection And Rework Of Seat Support Frames

WARNING: FAILURE TO COMPLY WITH THIS SERVICE BULLETIN CAN RESULT IN FAILURE OF THE SEAT SUPPORT FRAMES, CAUSING INJURY TO PASSENGERS, AND/OR BYSTANDERS.

It has been determined by CHANCE MANUFACTURING CO., INC. that cracks can develop in ZIPPER seat support frames.

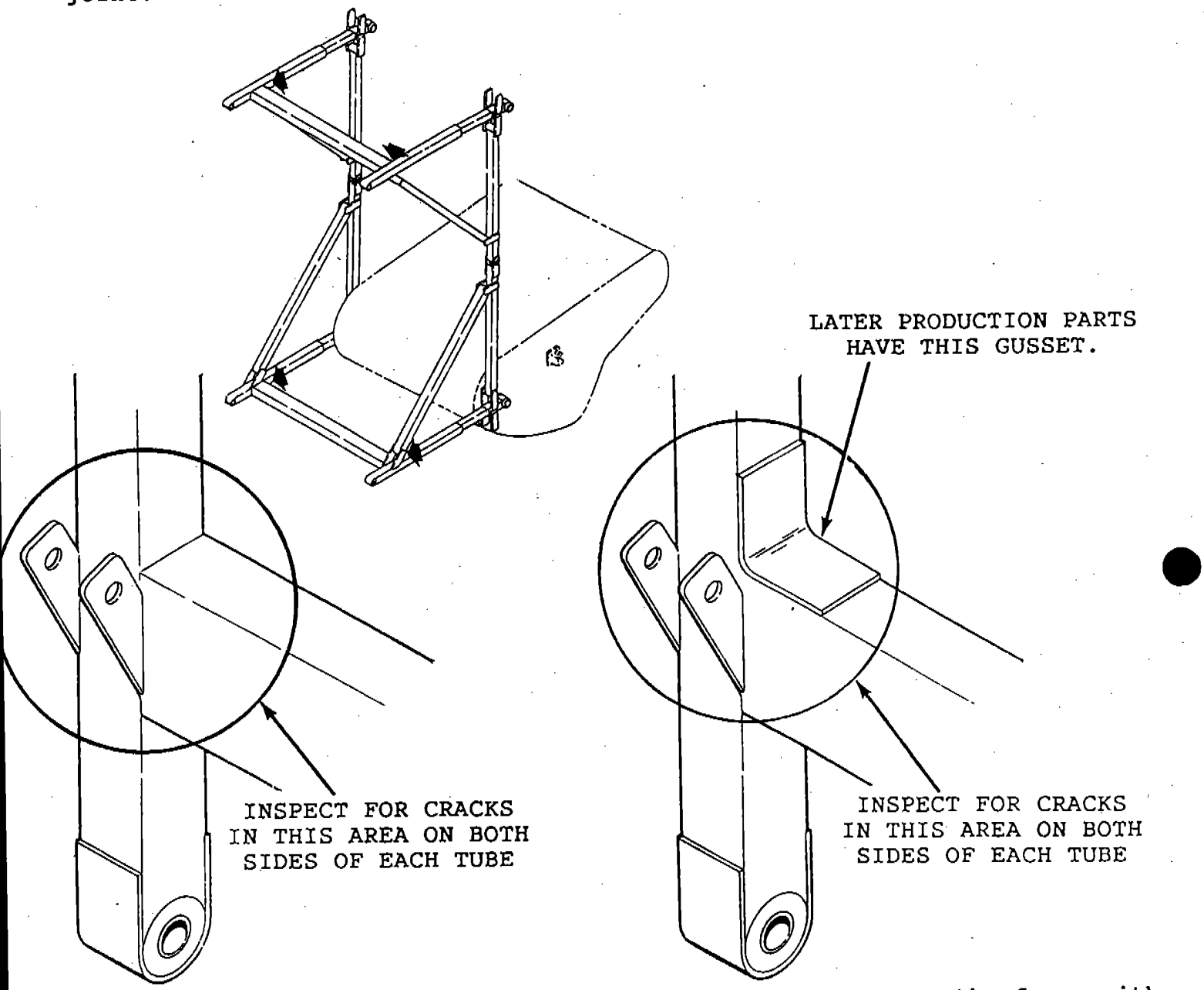
All owners of the above noted ZIPPER amusement rides are required to inspect their rides and if necessary, perform the rework described in this bulletin.

Perform the inspection using the instructions on the following pages of this bulletin. If rework is required, order Kit No. K05-0344-00 and install the kit using the instructions provided. The inspection and all work must be performed by qualified personnel, capable of understanding the function of the parts and their proper installation.

Return the attached Certification Of Compliance within 15 days from receipt of the bulletin. If there are any questions regarding the instructions or this inspection, contact the CHANCE CUSTOMER SERVICE DEPARTMENT.

INSPECTION PROCEDURE

Check each seat support frame (12 per ride) for cracks as shown in the following illustration. Inspect the weld and the tubing near the welded joint.



- If a crack is found in a seat support frame, replace the frame with a new part. Do not attempt to weld or otherwise repair a cracked seat support frame. **DO NOT OPERATE THE RIDE.**

- If no cracks are present, and the seat support frame does not have the reinforcing gusset, order Kit No. K05-0344-00. Install the kit using the following instructions.

IMPORTANT: Perform this inspection monthly or at every set-up, whichever occurs first.

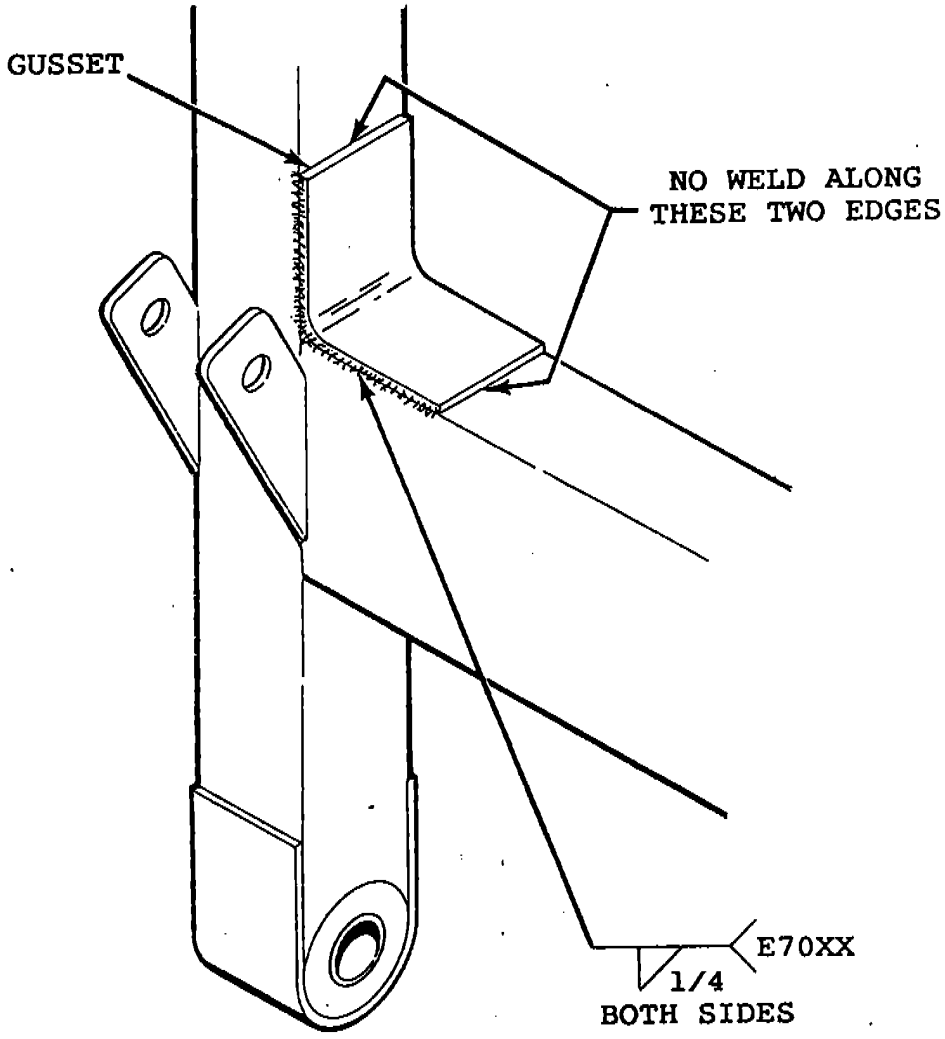
PARTS LIST

The following parts are included in Kit No. K05-0344-00, to rework one complete ride (12 seat support frames).

Part Number	Description	Qty. Reqd.
305-3191400	GUSSET - Seat Support Frame (1062500-032) ...	24

REWORK INSTRUCTIONS

All seat support frames must have the reinforcing gusset like later productions parts. Locate and weld the gusset two places on the seat support frame as shown.



Number: B05-0303-00

Date: September 9, 1987

Supersedes:

America's Largest Manufacturer of Amusement Rides

SERVICE BULLETIN

Effective Serial Numbers: All Units

Ride: ZIPPER

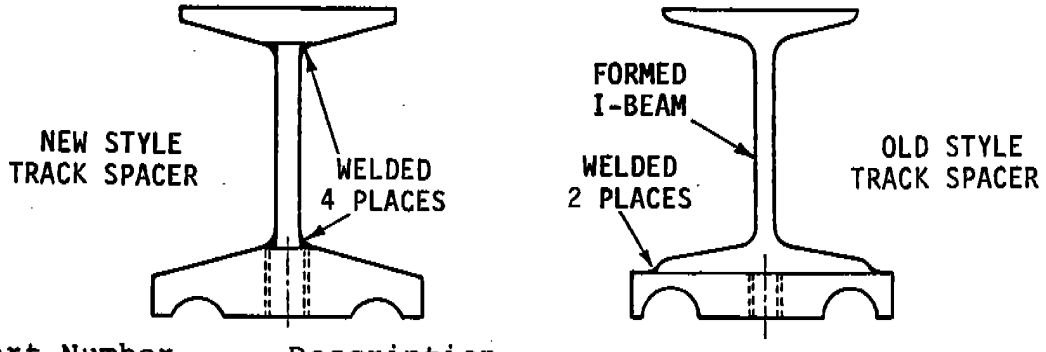
Subject: Track Spacers

As a safety precaution, CHANCE MANUFACTURING COMPANY, INC. requires that the owners of all ZIPPER amusement rides replace the track spacers between the straight and curved track sections at each end of the boom. A heavy, fabricated spacer is now available to replace the formed I-beam spacer previously used (See illustration).

AFTER JANUARY 1, 1988, DO NOT OPERATE THE RIDE WITH THE OLD STYLE TRACK SPACERS INSTALLED.

All work must be performed by qualified, competent mechanics, capable of understanding the function of the parts and their proper installation. Remove all old style track spacers from rides, and replace with the new style 1-1/2, 2, 2-1/2, and 3-inch spacers. Be sure to use the correct size attach plate for each track spacer. Refer to the instructions on Service Bulletin B05-0297-00 and the procedure in the operation manual.

Fill out and return the attached Certification Of Compliance for the procedure no later than January 1, 1988.



Part Number	Description
305-69871	TRACK SPACER - 1-1/2" Long (1062171-015)
305-70093	TRACK SPACER - 2" Long (1062171-004)
305-69870	TRACK SPACER - 2-1/2" Long (1062171-006)
305-70094	TRACK SPACER - 3" Long (1062171-005)
305-53350	ATTACH PLATE - 1-1/2" Long (1062170A032)
305-53870	ATTACH PLATE - 2" Long (1062170A018)
305-53349	ATTACH PLATE - 2/1/2" Long (1062170A031)
305-53871	ATTACH PLATE - 3" Long (1062170A019)

Number: B05-0297-00

Date: April 27, 1987.

Supersedes:

America's Largest Manufacturer of Amusement Rides

SERVICE BULLETIN

Effective Serial Numbers: All Units

Ride: ZIPPER

Subject: Track Spacers

As a safety precaution, CHANCE MANUFACTURING COMPANY, INC. requires that the owners of all ZIPPER amusement rides inspect the track spacers between the straight and curved track sections at each end of the boom, and remove all 1-inch track spacers.

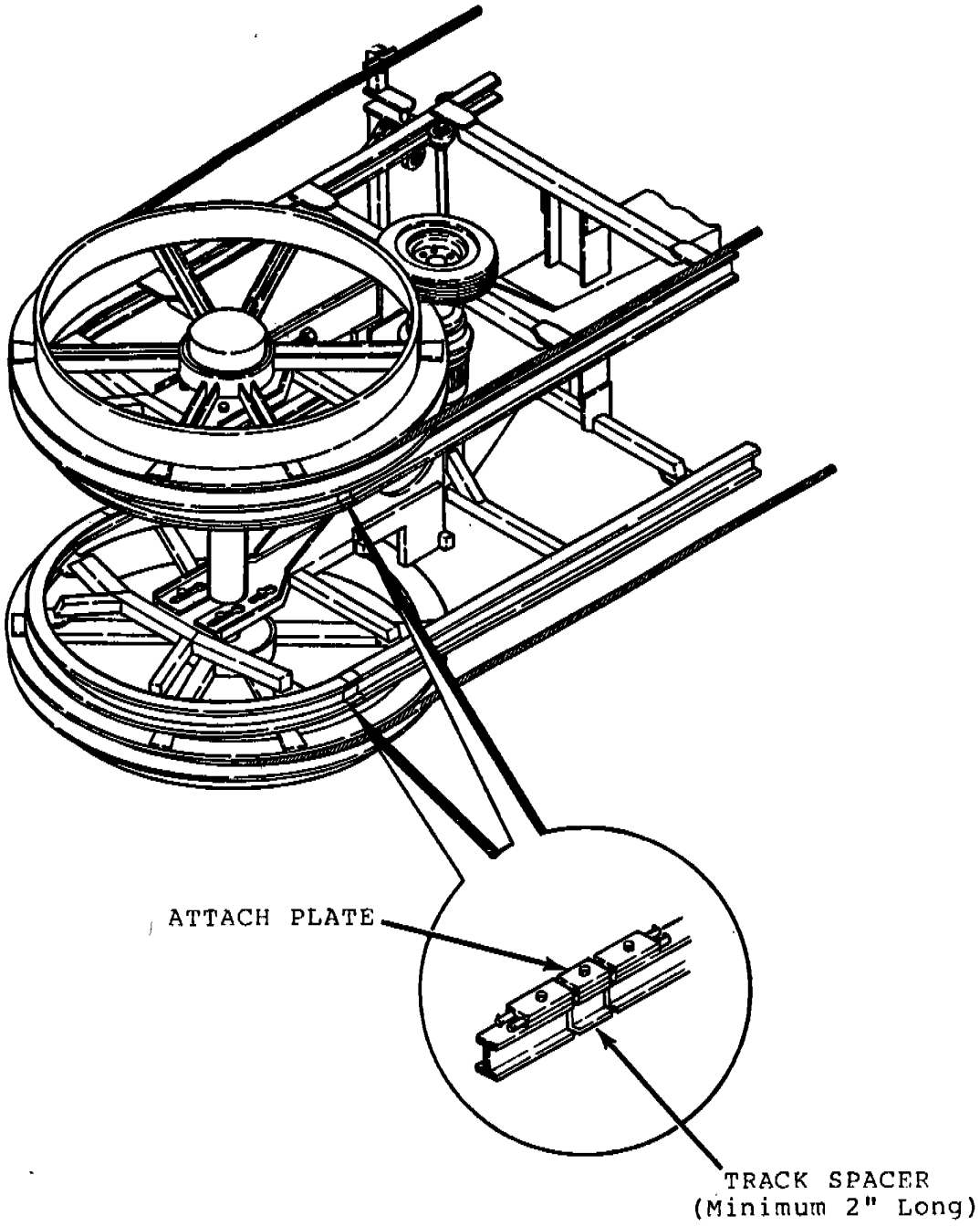
DO NOT OPERATE THE RIDE WITH ONE-INCH TRACK SPACERS INSTALLED.

All work must be performed by qualified, competent mechanics, capable of understanding the function of the parts and their proper installation.

Remove all 1" track spacers from rides, and replace with the existing 2-inch or longer spacers (Provided in pin box when ride was delivered from factory). Be sure to use the appropriate size attach plate for each track spacer. See the instructions on Page 3 of this bulletin and the procedure in the operation manual.

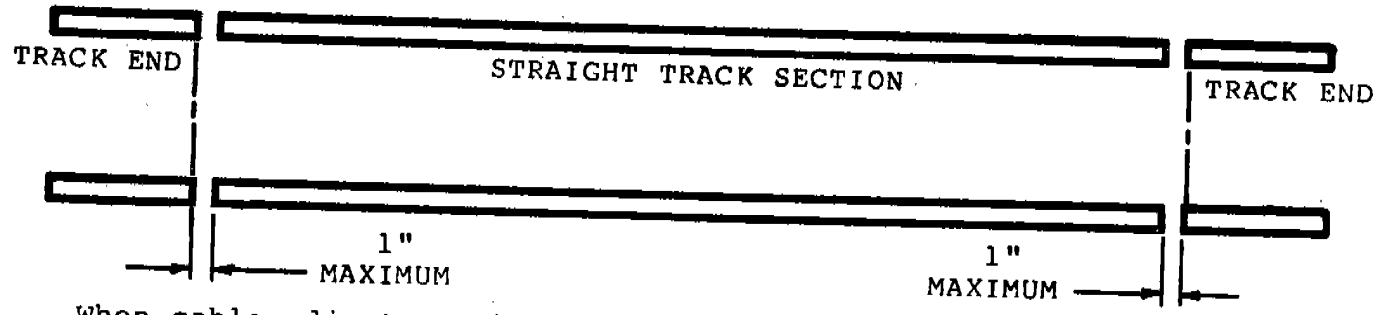
If the cable has not stretched enough to allow installation of the 2" spacer, a space of up to 1 inch is allowable at each end of the boom between the straight and curved sections of track.

Fill out and return the attached Certification Of Compliance for the procedure within fifteen (15) days from receipt of this bulletin.

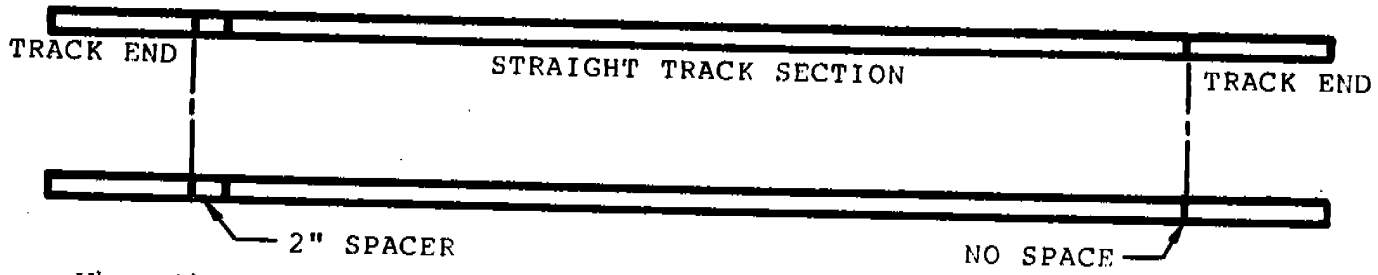


Part Number	Description
305-70093	TRACK SPACER - 2" Long (1062171-004)
305-53870	ATTACH PLATE - 2" Long (1062170A018)
305-70094	TRACK SPACER - 3" Long (1062171-005)
305-53871	ATTACH PLATE - 3" Long (1062170A019)

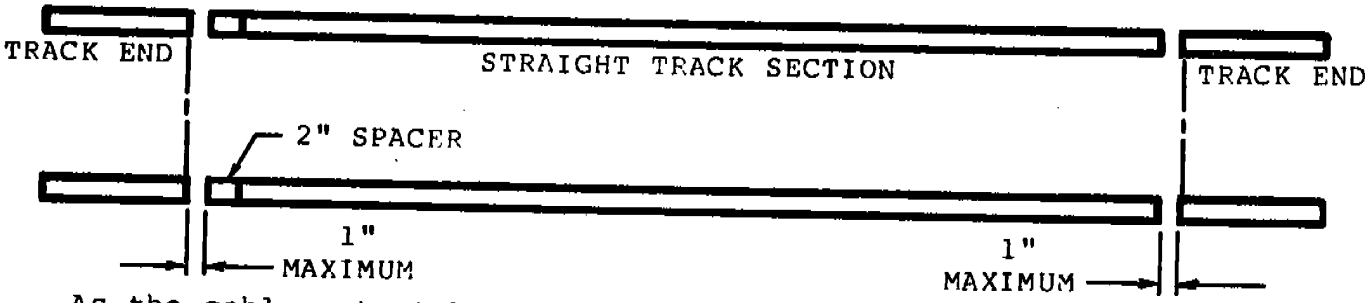
ADJUSTMENT PROCEDURE



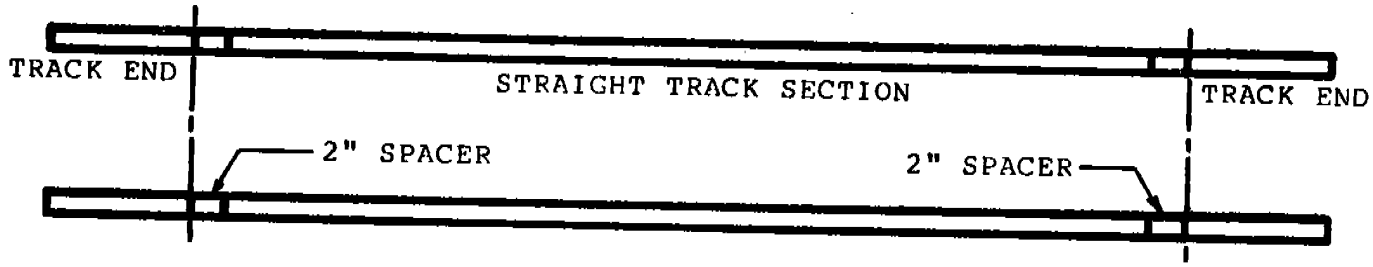
1. When cable adjustment becomes necessary, adjust the curved track ends equally on both ends of the boom, allowing no more than 1 inch spaces at each end as shown in the illustration above. (Rides leave the factory with approximately 1/2 inch spaces at each end.)



2. When the cables have stretched enough that the maximum 1 inch space is reached at both ends of the boom, adjust the curved track ends at one end of the boom completely inward, so that there is no space between the straight and curved track sections. Install the 2 inch track spacers in the other end of the boom.



3. As the cables stretch and further adjustment is required, spaces of up to 1 inch are allowable as shown.



4. When cable stretch permits, adjust the space out of the end with spacers, and install 2 inch spacers in the opposite end of the boom.

5. Continue this adjustment procedure with 3 inch spacers as future adjustment becomes necessary.

Number: B05-0296-00

Date: April 27, 1987

Supersedes:

America's Largest Manufacturer of Amusement Rides

SERVICE BULLETIN

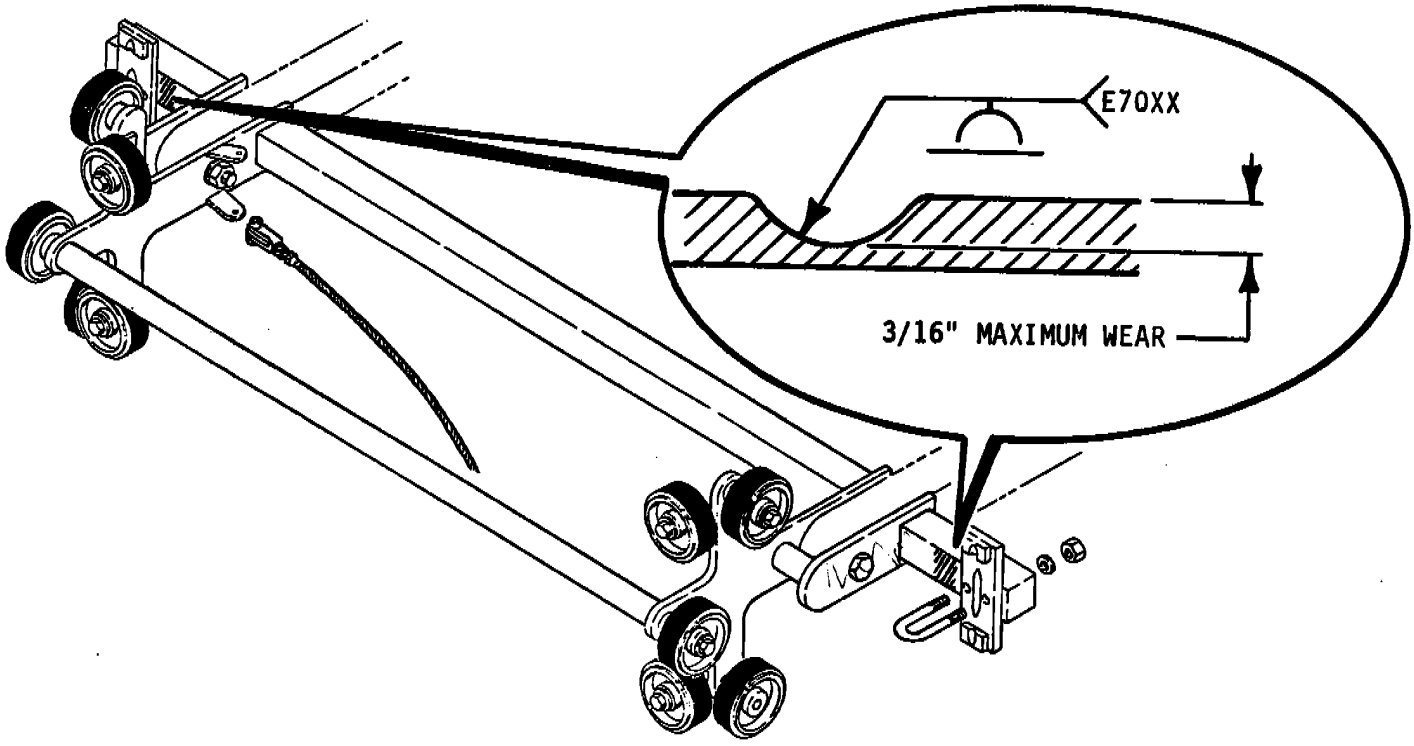
Effective Serial Numbers: All Units

Ride: ZIPPER

Subject: Seat Support Axle Inspection

CHANCE MANUFACTURING COMPANY, INC. has received reports from the field of wear on the seat support axle frame near the cable clamps on ZIPPER amusement rides. This wear is caused by occasional contact with the cable sheave during operation.

If the wear is no deeper than 3/16", it can be corrected by welding the worn area and grinding the entire repaired area smooth as shown. All work must be done by competent, qualified mechanics, capable of understanding the function of the parts and their proper installation. All welding must be done by a certified welder.



If this type of wear occurs frequently, or the amount of wear is severe, contact the CHANCE CUSTOMER SERVICE DEPARTMENT for further corrective measures.

Number: B05-0258-0A

Date: September 9, 1987

Supersedes: B05-0258-00

America's Largest Manufacturer of Amusement Rides

SERVICE BULLETIN

Effective Serial Numbers: All Units

Ride: ZIPPER

Subject: Seat Hanger Pins

Recent field inspections have found ZIPPER seat hanger pins secured with hairpins which are worn, sprung or of the wrong size.

CHANCE MANUFACTURING CO., INC. now requires the use of special capscrews and nuts to secure the seat hanger pin on the seats which rack in place on the boom. The pins for the two seats which rack on the trailer deck must be secured with snapper pins. Refer to the illustration and instructions on the reverse side of this bulletin.

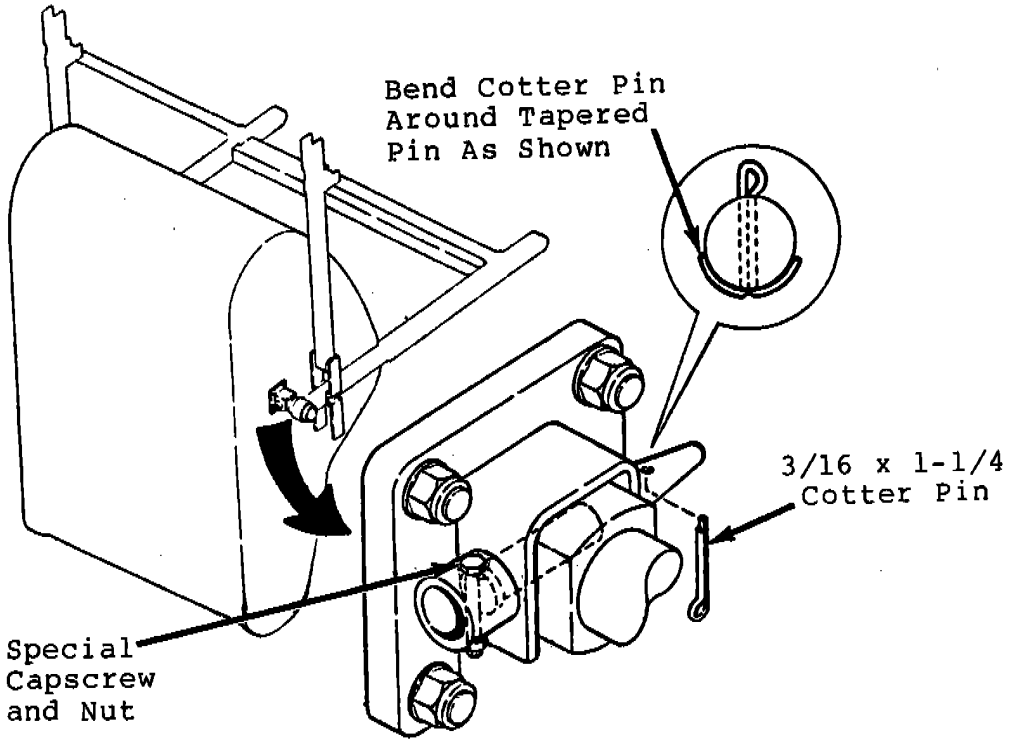
All work must be done by competent qualified mechanics, capable of understanding the function of the parts and their proper installation. If you have any questions regarding these instructions, contact the CHANCE CUSTOMER SERVICE DEPARTMENT.

Order the following parts as required:

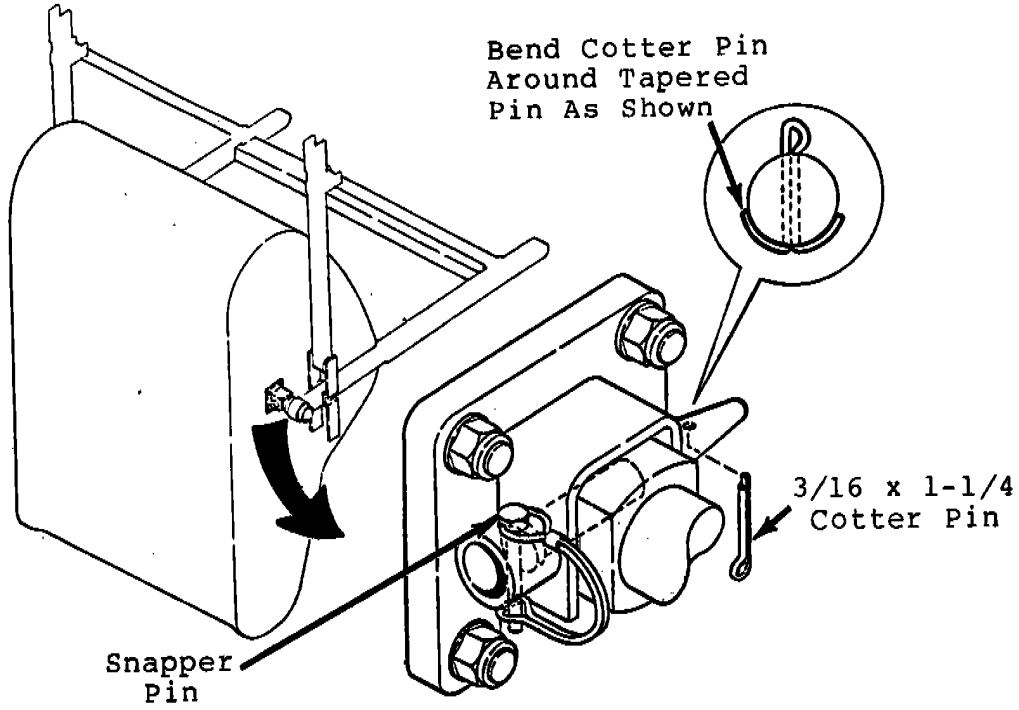
Quantity Reqd. Per Ride	Part Number	Description
20	690-12270	Capscrew - Special
20	691-48043	Nut - Flexlock (1/4-28)
4	290-52321	Snapper Pin (1/4)
24	699-51652	Cotter Pin (3/16 x 1-1/4)

INSTALLATION INSTRUCTIONS

1. Install the special capscrew through the tube in the seat hanger, behind the head of the tapered pin as shown on the ten (10) seats which rack in place on the boom. Tighten the nut until two or three capscrew threads protrude from the lock ring on the nut. DO NOT OVERTIGHTEN. Install the 3/16 x 1-1/4 cotter pin as shown IN ADDITION TO THE CAPSCREW. Do not install a hairpin in the hole in the tapered pin.



2. Install the snapper pin through the tube on in the seat hanger, behind the head of the tapered pin as shown on the two (2) seats which rack on the trailer deck. Install the 3/16 x 1-1/4 cotter pin as shown IN ADDITION TO THE SNAPPER PIN. Do not install a hairpin in the hole in the tapered pin.



CHANCE MANUFACTURING CO., Inc.

Number: B05-0257-00

Date: June 6, 1984

Supersedes:

America's Largest Manufacturer of Amusement Rides

SERVICE BULLETIN

Effective Serial Numbers: All Units

Ride: ZIPPER

Subject: Replacement of Spring Latches

CHANCE MANUFACTURING CO., INC. wishes to emphasize the importance of yearly replacement of the spring latches on all doors.

An expiration date is electrically etched into each spring latch in the location shown below.

B840099

The expiration date is one year from the date the spring latch is shipped from CHANCE MANUFACTURING CO., INC. ALL SPRING LATCHES MUST BE REPLACED ON or BEFORE THE EXPIRATION DATE. DO NOT OPERATE THE RIDE UNTIL ALL SPRING LATCHES HAVE BEEN REPLACED. Discard the old spring latches immediately after removal.

IMPORTANT: If the expiration date has been altered, painted over, or is illegible, the spring latch must be replaced.

Order new spring latches each year as follows:

Quantity Reqd. Per Ride	D.P. Number	Description
12	390-32497	Spring Latch (CSN-25C17-1

Number: B05-0254-00

Date: 5-15-84

Supersedes:

America's Largest Manufacturer of Amusement Rides

SERVICE BULLETIN

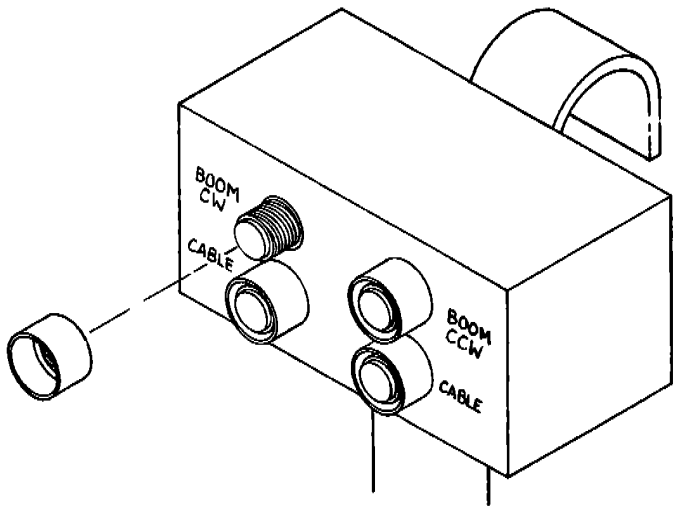
Effective Serial Numbers: All Units

Ride: ZIPPER

Subject: Switch Guards for Hand Control Box

As a safety precaution, CHANCE MANUFACTURING CO.,INC. requires that all ZIPPER rides be equipped with switch guards on the pushbutton switches in the hand control box. The switch guards help prevent unintentional operation of the control buttons.

If your ride is not already equipped with these switch guards, order four (4) switch guards (part number 205-31604), and install per the instructions below.



A840062

1. Turn the main breaker to "OFF".
2. Remove the back cover from the hand control box.
3. Remove the existing nuts from each pushbutton switch and replace with switch guards. Hold the switches from the back side to prevent turning while tightening the switch guards.

   IMPORTANT: The face of each pushbutton must be flush with or slightly recessed below the edge of the switch guard. If necessary, use the existing nuts behind the panel to adjust the switch to the correct position.

4. Install the back cover.

Number: P05-0244-00

Date: 5-15-84

Supersedes:

America's Largest Manufacturer of Amusement Rides

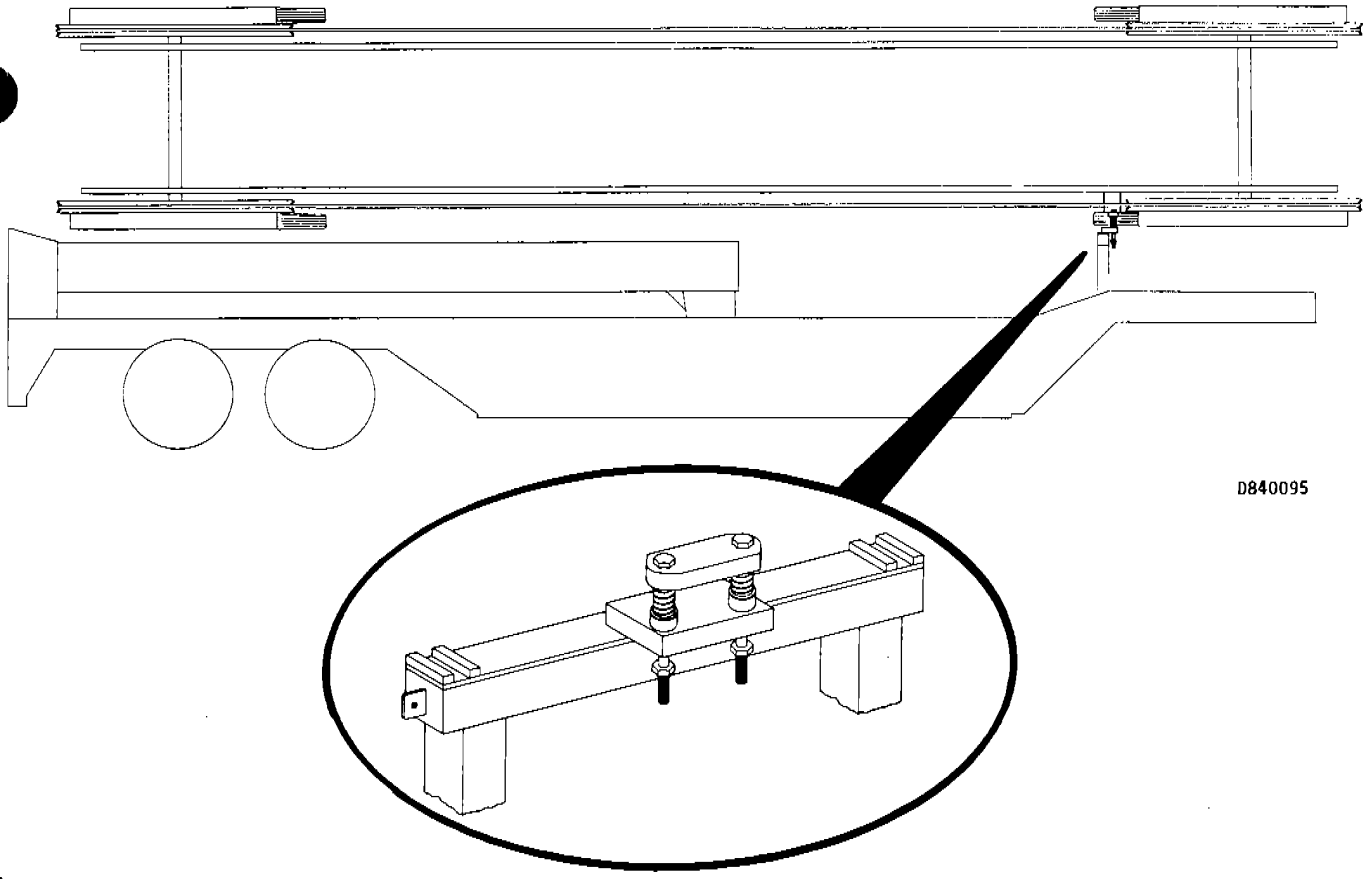
PRODUCT IMPROVEMENT NOTICE

Effective Serial Numbers: 68-1801 through 82-18112

Ride: ZIPPER

Subject: Boom Support Kit

CHANCE MANUFACTURING CO., INC. has made available a Boom Support Kit. The kit provides a spring-loaded saddle to give better support to the boom during transport of the ride and helps prevent fatigue cracking of the boom.



D840095

Factory and Sales Office: 4219 Irving • P.O. Box 12328 • Wichita, Kansas 67277 • (316) 942-7411

To order the Boom Support Kit, order K05-0244-01

Qty. Req. Per Ride	D.P. Number	Description
1		KIT - Boom Support (Includes the following parts)
1	305-25408	..Boom Extension (1063042-001)
1	305-75789	..Saddle Support (1063042-002)
1	305-54148	..Saddle Plate (1063042-003)
2	305-82346	..Shim Tube (1063042-004)
2	270-72094	..Spring
14	696-85338	..Flat Washer (1 x 9/64 thick)
2	691-48060	..Nut - Flexloc (1-8)
2	686-10420	..Capscrew (1-8 x 13)
1		..Installation Drawing (D05-0244-01)

Number: B05-0228-00

Date: 9-10-81

Supersedes:

America's Largest Manufacturer of Amusement Rides

SERVICE BULLETIN

Effective Serial Numbers: ALL UNITS

Ride: ZIPPER

Subject: SEAT HANGER KIT

Chance Manufacturing Co., Inc. is making available a bolt-on seat hanger kit that will replace the older style weld-on seat hanger, which will facillitate future replacement.

All seat hanger replacement parts ordered in the future will be bolt-on style.

Before installing this kit, read the instructions completely and familiarize yourself with the parts in the kit. Make certain all parts have been received. If any parts are missing, notify Chance Manufacturing Co., Inc. immediately. Do NOT substitute an inferior grade of material or parts.

All work must be performed by competent, qualified mechanics capable of understanding the functions of these parts and their proper installation.

If any questions arise concerning the installation of this kit, please contact Chance Manufacturing Company for assistance.

PARTS LIST

QUANTITY	PARTS DESCRIPTION	PART NUMBER
1	COMPLETE KIT	K05-0228-00
CONSISTING OF:		
1-PER SEAT OR RIDE.....	DRAWING #K05-0228-00.....	SHEET 1
1.....	HANGER WELDMENT (#1062624-1).....	305-32738
1.....	HANGER WELDMENT (#1062624-2).....	305-32739
8.....	HEX HEAD CAP SCREWS 1/2-13 x 1-3/4"...	686-08422
8.....	FLEXLOCK NUTS 1/2-13.....	691-48050
8.....	HARDENED WASHER 1/2".....	696-85530

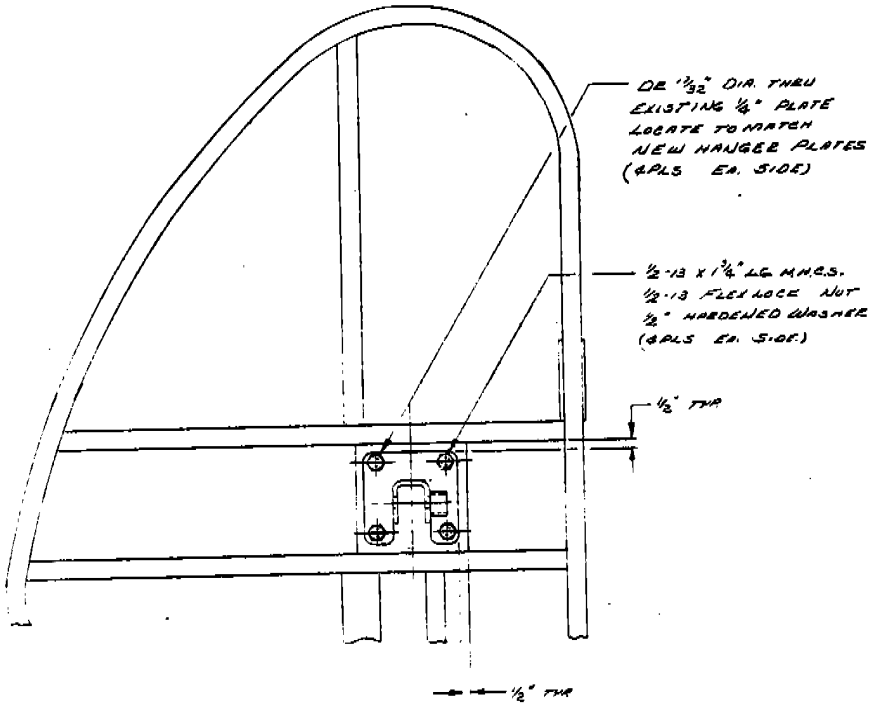
QUANTITY LISTED ABOVE IS FOR ONE ZIPPER SEAT. 12 KITS REQUIRED FOR COMPLETE RIDE.

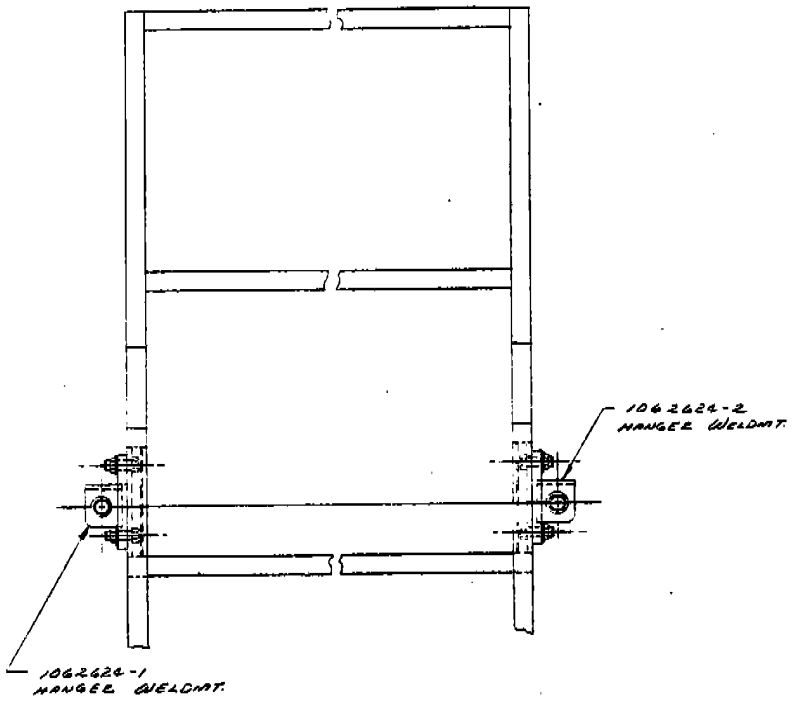
INSTALLATION INSTRUCTIONS

1. Remove existing car hanger ears from 1/4" plate with cutting torch and grind smooth.
2. If expanded metal covers existing 1/4" plate by more than 3/8" from any edge, it must be ground off and re-welded to 3/8" diminsion from all edges. New welds to expanded metal should be added before removal of material extending past 3/8" limit.

3. Locate new hanger weldments on 1/4" plate as shown and drill through (4 places each side) 17/32" diameter. Locate to match new hanger weldments.

4. Install and tighten fasteners (4 places) each side. Torque to 55 ft. lbs.





Number: B05-0215-0A

Date: June 8, 1984

Supersedes: B05-0215-00

America's Largest Manufacturer of Amusement Rides

SERVICE BULLETIN

Effective Serial Numbers: ALL UNITS

Ride: ZIPPER

Subject: INSPECTION OF DOOR HINGES

This bulletin supersedes Bulletin No. B05-0215-00, which is no longer in effect and should be destroyed.

As a safety precaution, CHANCE MANUFACTURING CO., INC. requires that owners inspect the hinges on the ZIPPER seat doors.

Check the hinges for any type of cracks in the hinges or the structural members which support the hinges on either the door or the seat body frame. Also look for cracks in the welds attaching the hinges to the doors.

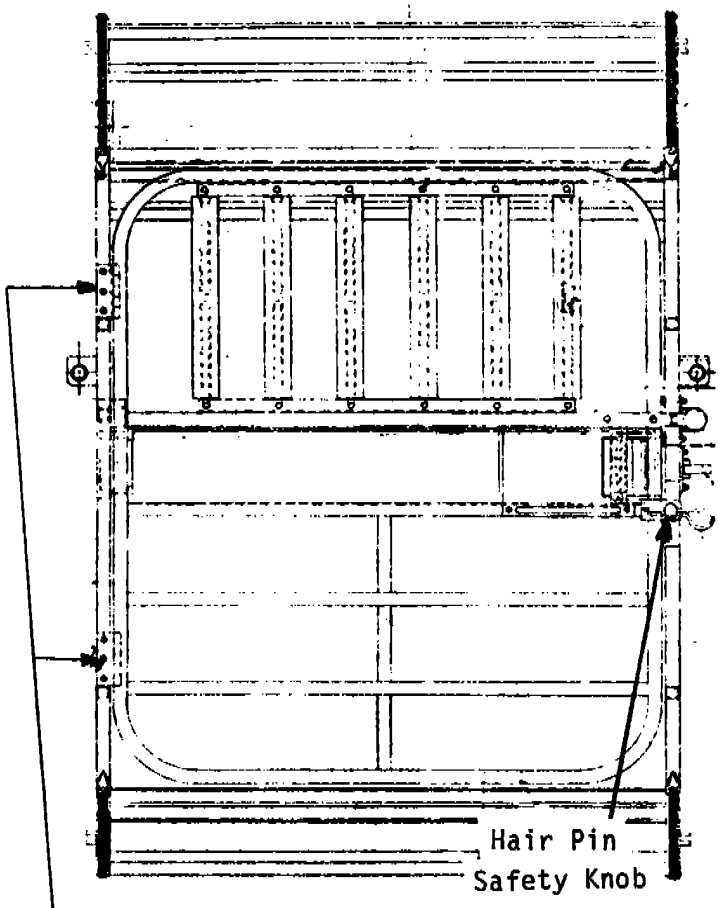
Check the hinge for wear by opening and closing the door. [redacted] binds on the [redacted] the seat frame, or will not close over the hair pin safety knob without forcing, the hinge must be replaced.

If any of the above conditions exist, replace the hinge.

Order new hinges from CHANCE MANUFACTURING under part number 390-33572.

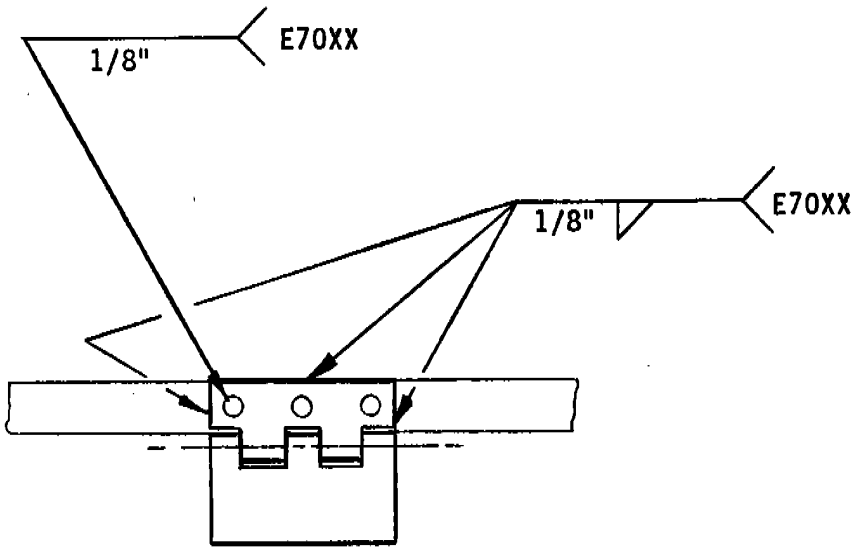
NOTE: Attach each hinge to the seat frame with the hardware noted in the illustration.

Weld the new hinges to the door as shown in the drawing on the following page.



390-33572 Door Hinge (2 reqd. per seat)
686-07502 Hex Hd. Bolt -5/16-18 x 2 (3 reqd. per hinge)
691-47812 Essna Lock Nut - 5/16-18 (3 reqd. per hinge)

VIEW TYPICAL FOR BOTH HINGES



Number: B05-0210-00

Date: 8-12-80

Supersedes:

America's Largest Manufacturer of Amusement Rides

SERVICE BULLETIN

Effective Serial Numbers: Units 68-1801 thru 72-1870, 73-1872

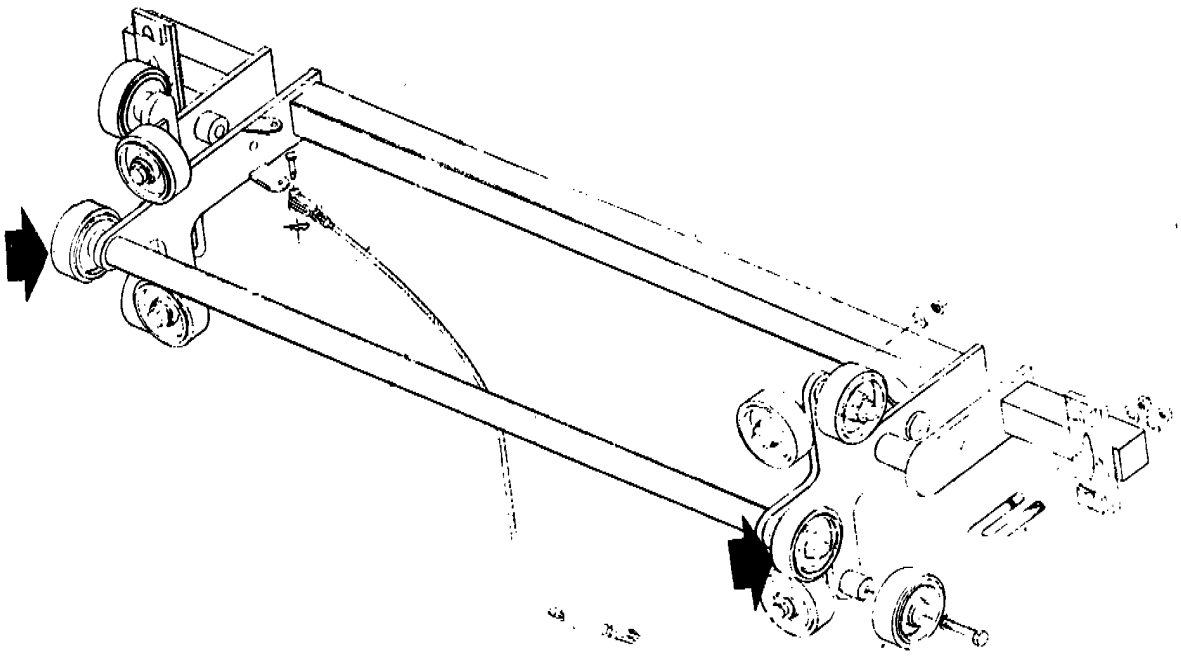
Ride: ZIPPER

Subject: SEAT SUPPORT AXLE WHEEL

Chance Manufacturing Co. has been informed that the hard wheels used on the Zipper seat support axle is no longer available.

A replacement wheel is now available through Chance Manufacturing Co. and takes only minor modification to seat axle.

The replacement kit #K05-0210-00, which replaces one seat axle (12 kits should be ordered for complete ride) can be ordered through Chance Manufacturing Co., Inc. parts department.



SEAT SUPPORT AXLE

PARTS LIST

QUANTITY	DESCRIPTION	PART NUMBER
1	DRAWING # K05-0210-00	SHEET 1
2	1/2-13 x 2" HEX HEAD CAPSCREW GR 8	686-08496
2	WASHER (D05-0210-2)	305-85641
2	SLEEVE (1062509-3)	305-70118
2	WASHER (1062509-4)	305-85597
2	WHEEL ASSEMBLY (1062511-1)	305-86357
1	2oz BOTTLE RED LOCTITE	290-01376

Number B05-0205-0A

Date 12-31-86

Supersedes B05-0205-00
(8-2-80)

America's Largest Manufacturer of Amusement Rides

SERVICE BULLETIN

Effective Serial Numbers: 68-1801 thru 79-1898

Ride: ZIPPER

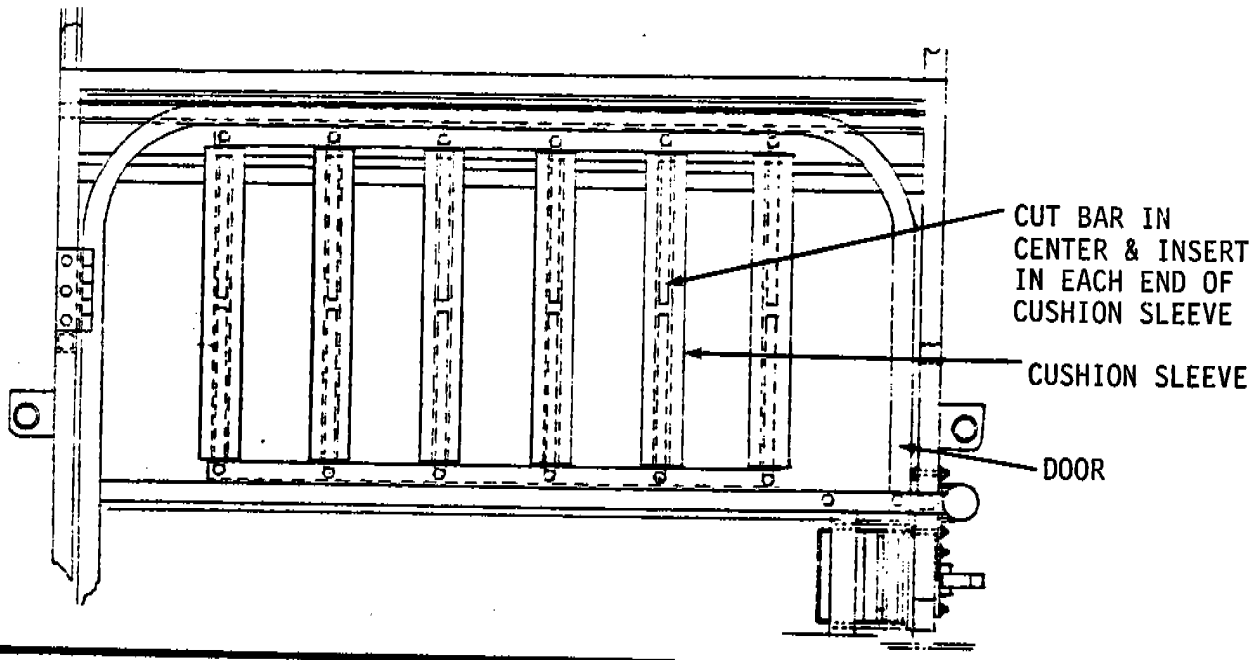
Subject: HAND GRIP ASSEMBLY

Chance Manufacturing has developed a two inch diameter cushioned padding that replaces the tubular padding on the six hand grip bars on the door of the Zipper seat.

These cushions are of an extremely tough self skinning urethane foam, bonded to a sleeve and provide increased passenger protection and safety.

All owners of ZIPPER amusement rides are required to add this padding to the hand grip bars immediately. Order a total of 72 cushions (6 per seat) under part number 305-21503.

To install the cushions, cut the existing grip bars in half, then insert one half into each end of the cushion. Re-install the hand grip.



Factory and Sales Office: 4219 Irving • P.O. Box 12328 • Wichita, Kansas 67277 • (316) 942-7411

Number: B04-0204-01

Date: 4-23-80

Supersedes:

America's Largest Manufacturer of Amusement Rides

SERVICE BULLETIN

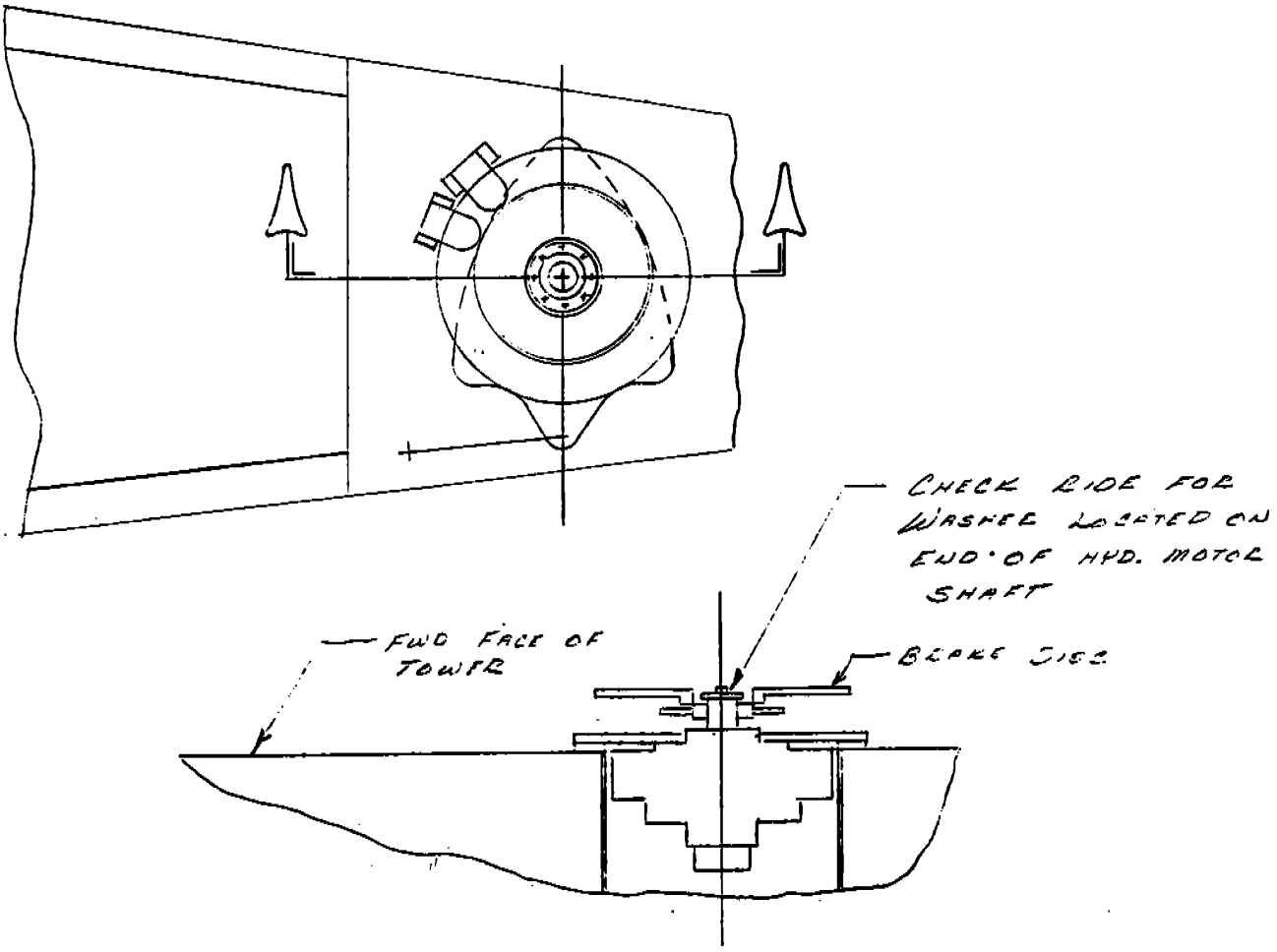
Effective Serial Numbers: UNITS 71 AND ON

Ride: ZIPPER

Subject: WASHER LOCATION

As a preventative maintenance procedure, Chance Manufacturing Co., Inc. is requiring that owners of Zippers with unit numbers 71 & on inspect the hydraulic motor shaft, making sure there is a washer located on the end of the motor shaft.

If this washer is not present, please contact Chance Manufacturing Co. for instructions in correction of this condition.



Factory and Sales Office: 4219 Irving • P.O. Box 12328 • Wichita, Kansas 67277 • (316) 942-7411

Number: B05-0203-00

Date: 3-27-80

Supersedes:

America's Largest Manufacturer of Amusement Rides

SERVICE BULLETIN

Effective Serial Numbers: RIDES MANUFACTURED IN 1979 & 1980

Ride: ZIPPER

Subject: CHECK VALVE LOCATION

As a preventative maintenance procedure, Chance Manufacturing Co., Inc. is requiring that all owners of Zippers manufactured in 1979 or 1980 inspect the location of a check valve in the hydraulic system on the back side of the tower.

Inspect hydraulic plumbing for check valve position as shown in FIGURE A.

Trace routing of line A, it should run directly to hydraulic reservoir and not be tied into any other lines.

If this check valve is not in position shown, contact Chance Manufacturing Co. for instructions in replacement.

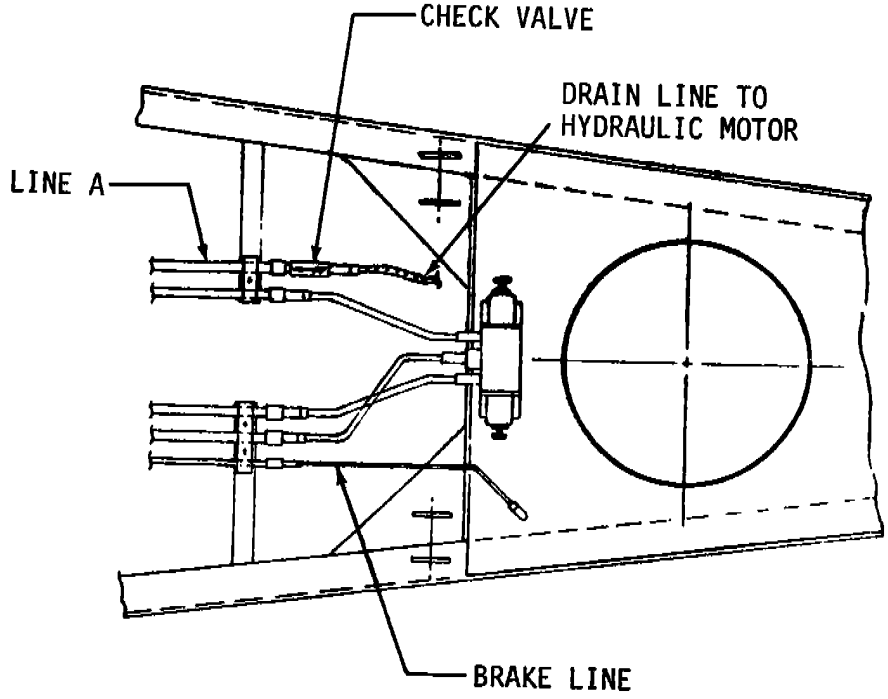


FIGURE A

Number: B05-0201-00

Date: 1-31-80

Supersedes:

America's Largest Manufacturer of Amusement Rides

SERVICE BULLETIN

Effective Serial Numbers: ALL RIDES

Ride: ZIPPER

Subject: INSPECTION OF CABLE CLAMP "U" BOLTS

As a safety precaution, all Zipper owners are being asked to inspect all cable clamp "U" bolts (See Figure A).

Some of these cable clamp "U" bolts on Zippers manufactured during 1979, or included in service parts shipped, have been discovered not up to specifications by our Quality Assurance Program.

This condition could result in extensive wear both externally and at the cable clamping surface.

Please inspect all clamps for signs of wear and notify Chance Manufacturing if such a condition exists.

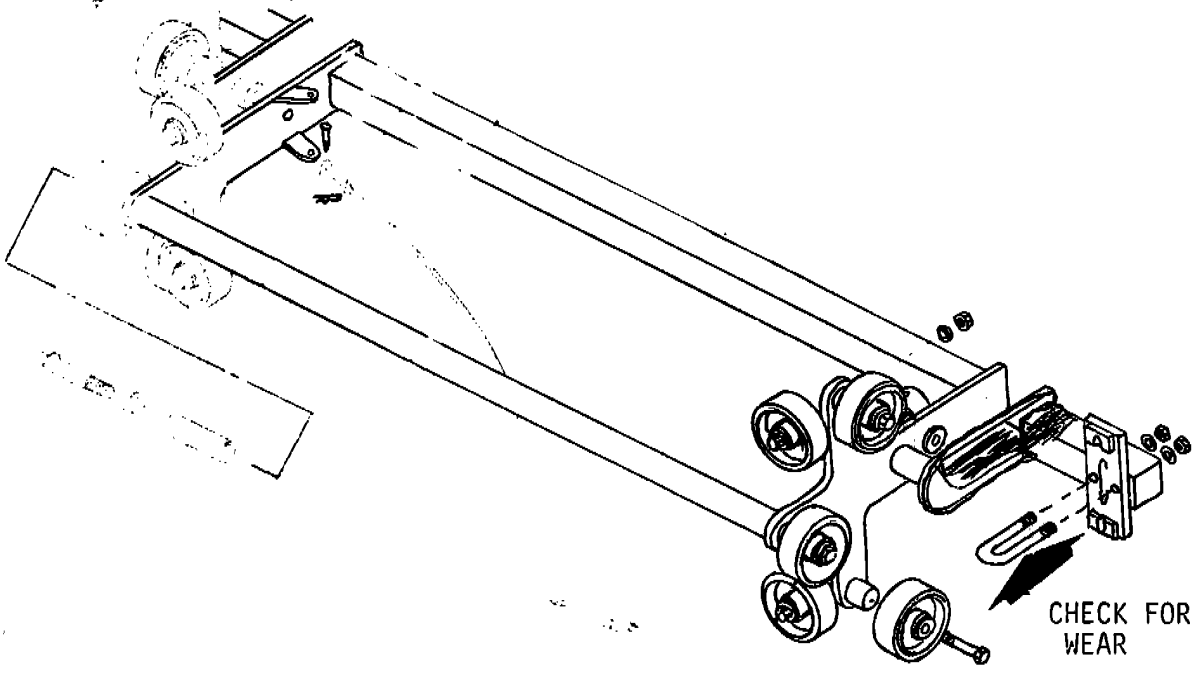


FIGURE A

CHANCE MANUFACTURING CO., Inc.

Number: 05-170

Date: 10-9-78

Supersedes:

America's Largest Manufacturer of Amusement Rides

SERVICE BULLETIN

Effective Serial Numbers: ALL UNITS

Ride: ZIPPER

Subject: LAP BAR INSPECTION

The Zipper lap bar latching device, described in Service Information Bulletin 05-157B, will not work if the lap bar fractures or breaks.

Chance Mfg. is requesting all Zipper owners to inspect the condition of the Zipper seat lap bars. This inspection must be performed by competent, qualified mechanics capable of understanding the function of the parts and their proper installation.

WOODEN LAP BARS

Remove lap bars from hinges. Inspect ends of lap bars for worn mounting holes, cracks or any signs of deterioration. If any of these conditions exist the lap bar must be replaced before the seat can be used. This inspection should be performed annually.

Inspect lap bar covers daily and replace lap bars that have cracked or torn covers. Do not attempt to repair covers. Cracks or tears can allow wooden centers to become wet and possibly deteriorate under the padding where the wood cannot be seen. Install lap bars with mounting nuts on door side of lap bars.

NOTE: Wooden lap bars are no longer available but can be replaced with metal lap bars equipped with renewable padding. Mounting bolts are different and should be ordered with the metal lap bar.

METAL LAP BARS

Inspect padding on lap bars daily. Replace any padding if it is cracked or torn, if Velcro seam will not stay closed or if any lacing eyelets are torn loose. Replace any broken laces.

Remove lap bars annually for inspection. Remove padding by opening Velcro bound seams and loosening lacings. Replace lap bars if metal shows any signs of deterioration or if mounting holes are worn. Install padding on lap bars and secure lap bars to hinges. Position mounting bolts so that heads are on door side of lap bars.

See reverse side for replacement part information.

Number:05-160

Date:5-23-78

Supersedes:

America's Largest Manufacturer of Amusement Rides

SERVICE BULLETIN

Effective Serial Numbers: 68-1801 AND ON

Ride:ZIPPER

Subject:CROSS CABLES

It has been brought to our attention that some Zipper rides are being operated without the cross cables being used. These cross cables are important parts in that they affect the performance of the ride. At no time should less than three sets of cross cables be used. Failure to use the cross cables properly could result in major repair expenses.

If cross cables are not being used because they have broken, the cause of their breaking must be found and corrected.

Cross cables are used to help compensate for a small amount of misalignment in the seat support axles. If the misalignment becomes too severe the cross cables will break. Misalignment of the seat support axles will also result in rapid wear of the seat support axle wheels and binding or breaking of the wheel attaching bolts. Cross cables can also be broken if they are adjusted too tight or if they are twisted.

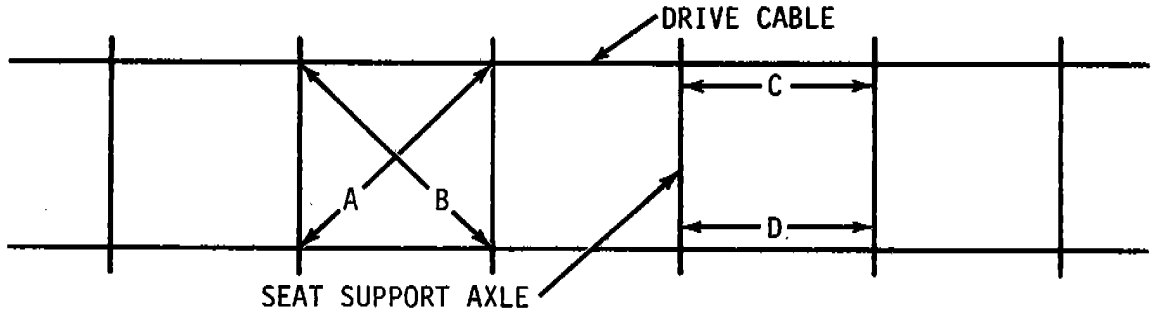
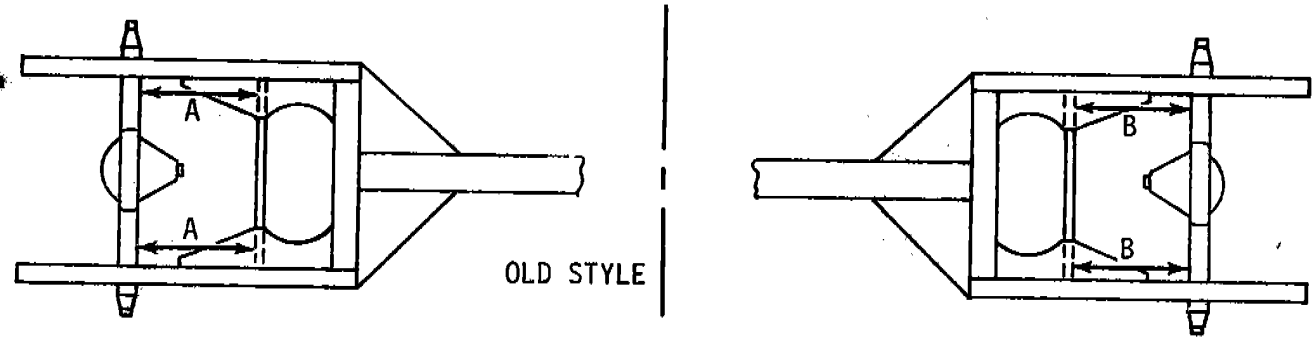
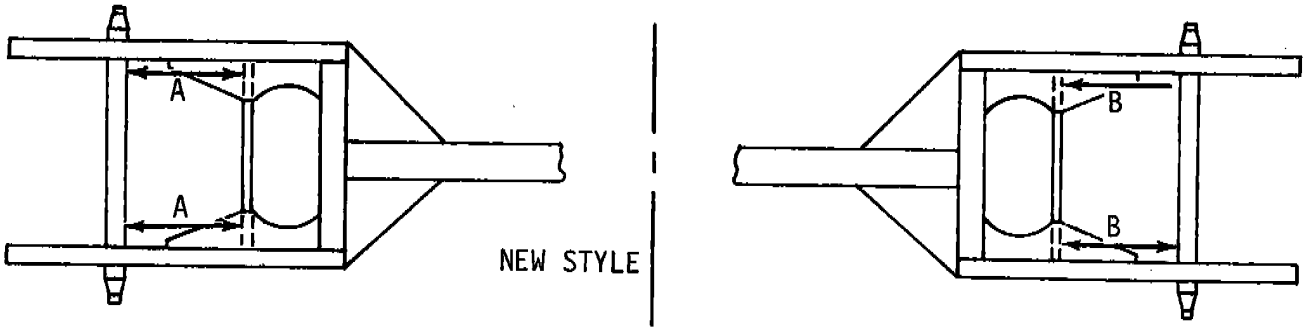


FIGURE A

Check the alignment of the seat support axles to see that they are square with one another. Measure and record the distance diagonally both directions (dimensions A and B) between common points on all of the seat support axles. (See Figure A) Measure and record the distance between all of the axles at common points parallel to the drive cables (dimensions C and D). If the C or D dimensions are not consistant, loosen the necessary U-bolt and move the seat support axle as required. Measurements and adjustments must be performed while the seat support axles are at a straight section of track and all of the cross cables have been removed.



CENTERLINE OF BOOM



BOTH A DIMENSIONS MUST BE THE SAME
BOTH B DIMENSIONS MUST BE THE SAME
THERE MUST BE NO MORE THAN ONE INCH DIFFERENCE
BETWEEN THE A AND B DEMINSIONS

FIGURE C

If after checking the adjustment of the drive axles, one of the drive cables appears loose, tighten that cable the minimum amount possible to prevent slippage.

When adjusting the drive cables always adjust the axle closest to the center line of the boom. This will keep the boom as closely balanced as possible. Always remove the cross cables and cross rods when making adjustments to the drive cables.

Both ends of the drive axle being adjusted must always be moved the same amount. The tighter of the two cables will stretch more than the other and in time both cables will achieve the same tension.

If the cables have been adjusted improperly and have become so different in length that both cables cannot be brought to the same length by running one slightly looser than the other, then new cables must be installed.

Refer to Zipper Operation Manual for instruction on adjusting main drive cable.

CHANCE MANUFACTURING CO., Inc.

Number: 05-157B

Date: 6-26-78

Supersedes: 05-157 (4-1-78)
05-157A (6-12-78)

America's Largest Manufacturer of Amusement Rides

SERVICE BULLETIN

Effective Serial Numbers: 68-1801 AND ON

Ride: ZIPPER

Subject: LAP BAR LATCH

Service Information Bulletins number 05-157 and 05-157A having been superceded by this bulletin, are no longer in effect and should be destroyed.

All work must be done by competent qualified mechanics capable of understanding the function of the parts and their proper installation.

Before installing this kit, read the instructions completely and familiarize yourself with the parts listed. Make certain all parts have been received. If any parts are missing, notify Chance Manufacturing Co. immediately. Do not substitute an inferior grade of material or part.

The attached CERTIFICATION OF COMPLIANCE must be completed and returned to Chance Manufacturing, Inc., within seven (7) days of receipt of kit.

If you have any questions concerning the installation of this kit, please notify Chance Manufacturing for assistance.

QUANTITY	PART DESCRIPTION	PART NUMBER
-	Complete Kit	305-38807
1	Service Information Bulletin	05-157B
6	Lap Bar Latch Assembly-Right Hand	305-39677
6	Lap Bar Latch Assembly-Left Hand	305-39678
	Lap Bar Latch Assemblys contain one each of the following:	
	Body (Pivot Weldment)	305-53024
	Handle (Latch Weldment)	305-14758
	Torsion Spring	205-72207
	Socket Head Shoulder Bolt	686-12215
	Hex Nut	691-47506
	Clevis Pin	290-51712
	SAE Washer	696-85370
	Cotter Pin	3/32"x1 1/2"
60	Bolt - Grade 5	1/4-20 X 2"
60	Lock Nut	1/4-20
12	Pivot Arm	305-02735
1	Certification of Compliance	P90-001/8-77

DOOR SHOWN IN THE
CLOSED POSITION

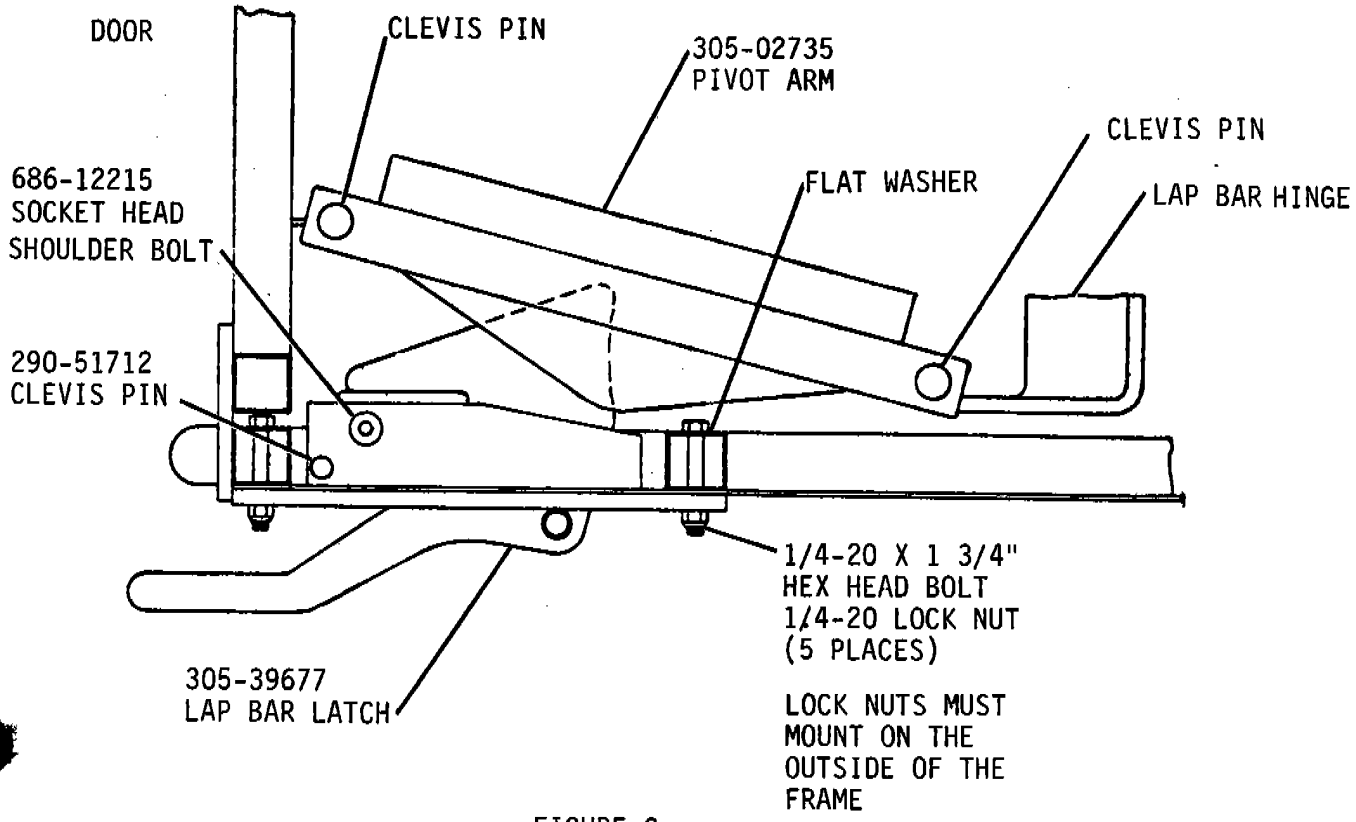


FIGURE C

Lap Bar Latch must overlap Lap Bar Hinge a minimum of 1/2".

DOOR SHOWN IN THE
CATCH POSITION

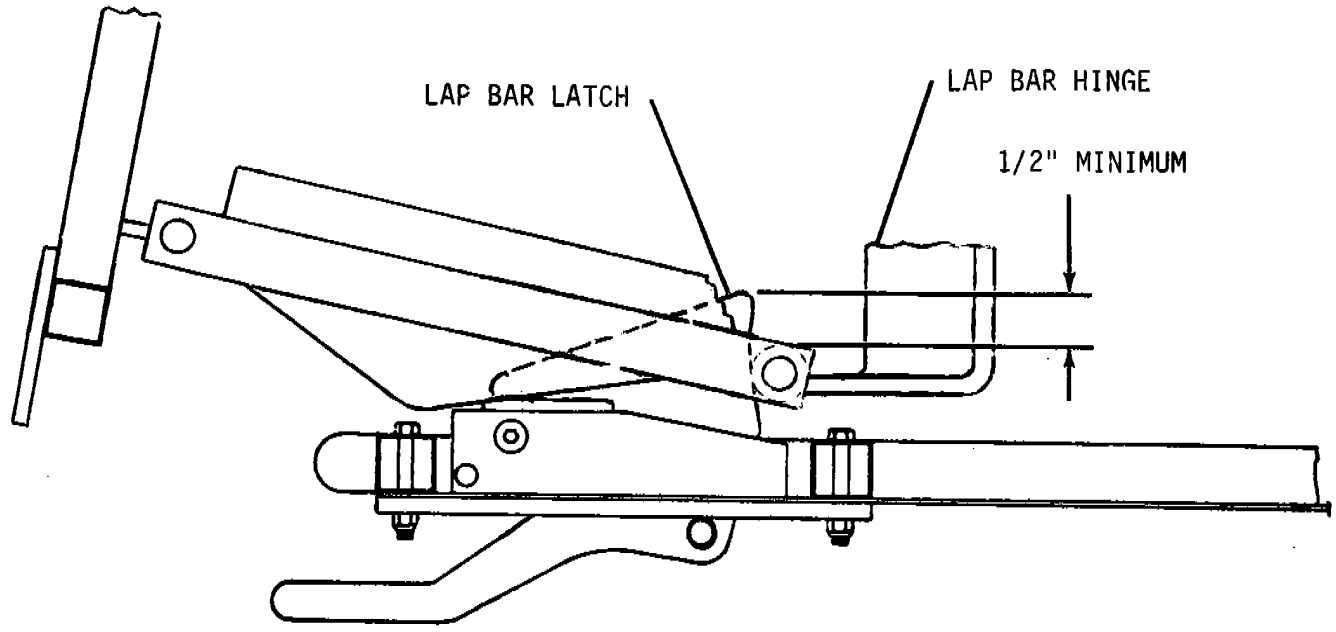


FIGURE D

LAP BAR LATCH INSPECTION

Move the 305-39677 Lap Bar Latch to the full open position then release the handle. The Lap Bar Latch should return to the full closed position against the stop. Open and close door and observe latch action. If the Lap Bar Latch fails to return completly replace the spring before the seat is used. Spring must be kept well coated with Loctite anti-seize lubricant number 767-64 or eqivalent. Lap Bar Latch must move freely with no binding. Lap Bar Latch attaching bolts must be retorqued if found loose.

Inspect bolt which holds spring in Lap Bar Latch. If bolt is found loose, retorque to 11 ft. lbs. The clevis pin which provides a stop for the spring must have washer and cotter pin in place.

LAP BAR HINGE INSPECTION

Inspect Lap Bar Hinge where it contacts the Lap Bar Latch. Replace Lap Bar Hinge if it is worn more than 1/8".

SPRING LATCH INSPECTION

The 390-32497 Spring Latch must be centered on the 305-49420 Striker Plate and should clear the base of the 305-16798 Retainer Clip no more than 1/16" as shown in Figure F, thus insuring adequate overlap of Spring Latch and Striker Plate and preventing the door from opening unless released by pulling on Spring Latch knob. Spring Latches which clear the base of the Retainer Clip more than 1/16" should be replaced immediately and the seat not used until this has been done. (FIGURE F). Do not attempt to straighten or repair the Spring Latch in any way. Each Spring Latch must be replaced on or before the expiration date (month and year) etched at the knob end. Attaching bolts must be retorqued if found loose.

RETAINER CLIP INSPECTION

The 305-16798 Retainer Clip acts as both a centering device to insure that the 390-32497 Latch Spring is centered on the 305-49420 Striker Plate, and a stroke limiting device to prevent over stroking of the Spring Latch. Cap screws must be retorqued if found loose.

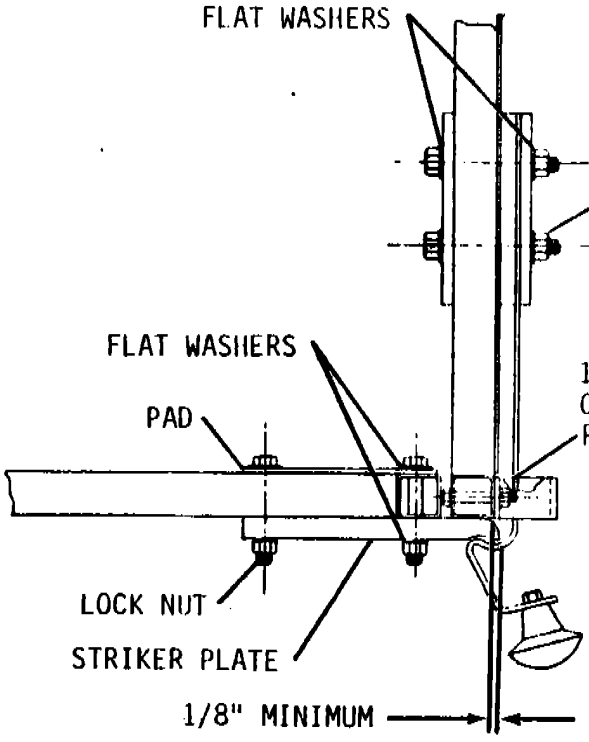


FIGURE F

STRIKER PLATE MUST EXTEND A MINIMUM OF 1/8" BEYOND THE EDGE OF THE FRAME.

SEAT SUPPORT FRAME INSPECTION

Inspect all taper pins in seat support frame. Taper pin must always be inserted so that the heads of pins are to the inside of the frame to provide maximum seat clearance.

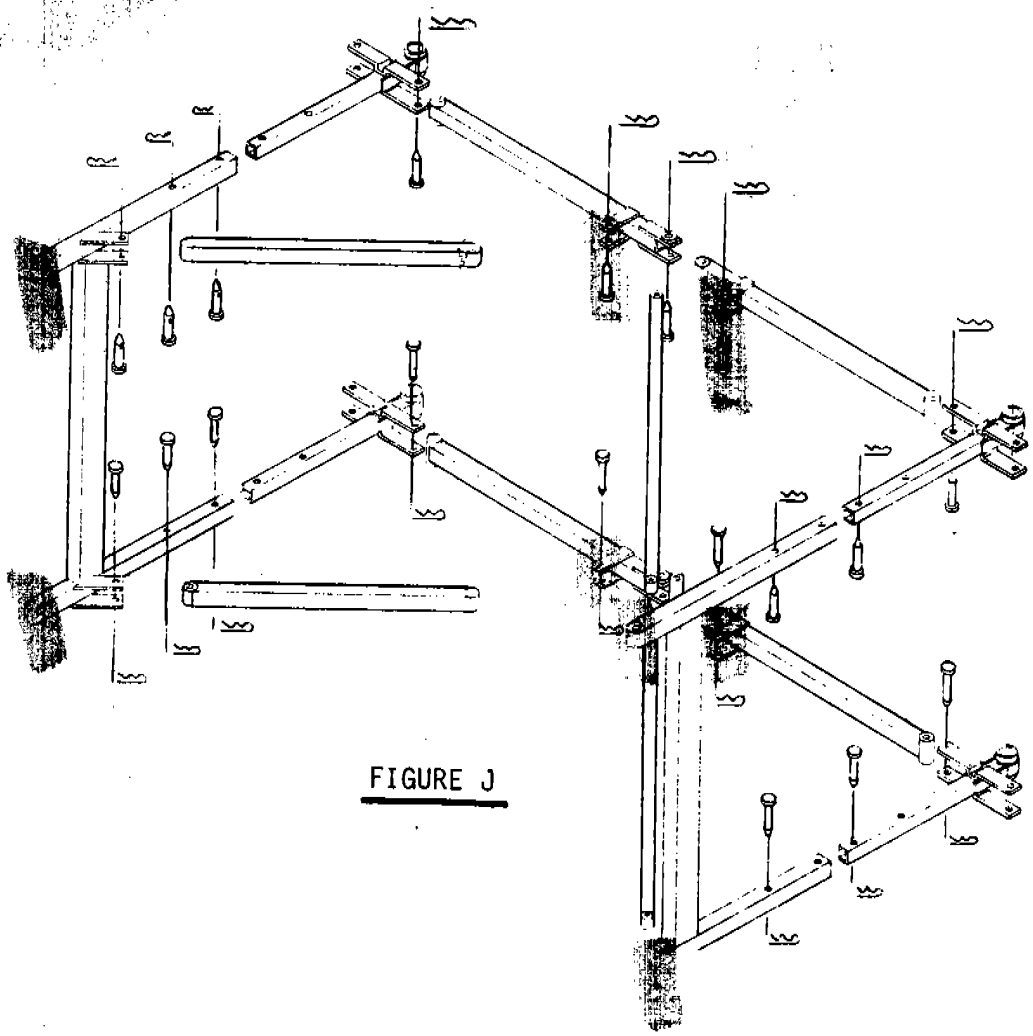


FIGURE J

The attached CERTIFICATION OF COMPLIANCE must be completed and returned to Chance Manufacturing Company, Inc., within seven (7) days of receipt of kit.

CHANCE MANUFACTURING CO., Inc.

America's Largest Manufacturer of Amusement Rides

Number: 05-0142-0C

Date: 12-1-84

Supersedes: 56 (7-23-73)
142 (8-26-77)
05-142A (12-2-77)
05-142B (2-21-78)

SERVICE BULLETIN

Effective Serial Numbers: 68-1801 AND ON

Ride: ZIPPER

Subject: SEAT DOOR LATCH

Service Bulletin Numbers 56, 142, 05-142A and 05-142B are superseded by this bulletin They are no longer in effect and should be destroyed.

Before installing this kit, read these instructions completely and become familiar with the parts listed below.

If you have any questions concerning the installation of this kit, please notify CHANCE MANUFACTURING CO.,INC. for assistance.

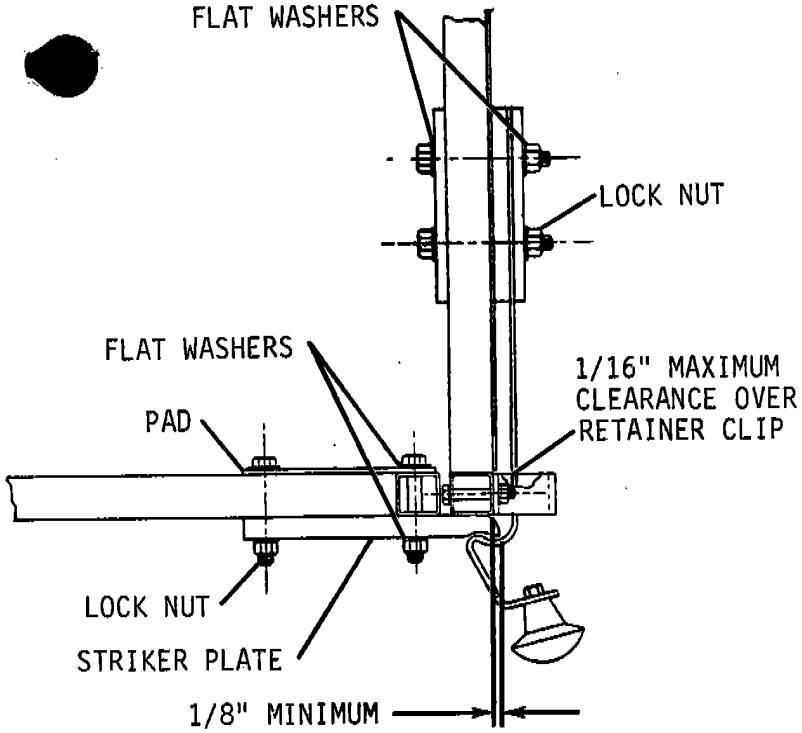
QUANTITY	PART DESCRIPTION	PART NUMBER
-	Complete Kit	305-38802
1	SERVICE INFORMATION BULLETIN	05-142-A
1	Spring Latch	390-32497
1	Pad	305-49408
1	Spacer	305-70185
2	Bolt-Grade 5	5/16-18 x 2 3/4"
4	Flat Washer	5/16
2	Lock Nut	5/16 x 18
1	Retainer Clip	305-16798
2	Bolt-Grade 5	1/4-20 x 1 3/4"
2	Flat Washer	1/4"
2	Lock Nut	1/4-20
1	Safety Knob	305-38962
1	Cap Screw-Grade 5	3/8-16 x 1 3/4"
1	Cap Screw-Grade 5	3/8-16 x 2"
1	Lock Washer	3/8"
1	Hair Pin	290-52388
1	Striker Plate	305-49420
1	Pad	305-49436
2	Bolt-Grade 5	5/16-18 x 2 1/4"
4	Flat Washer	5/16
2	Lock Nut	5/16-18
1	Certification of Compliance	---

RETAINER CLIP INSTALLATION

Center the 305-16798 Retainer Clip over the 390-32497 Spring Latch and the frame. Drill two 9/32 diameter holes through the frame to match the Retainer Clip. Install two bolts with flat washers under heads. Place lock nuts on bolts and torque to 7 ft. lbs.

SAFETY KNOB INSTALLATION

Inspect the seat frame where cap screw attaches the 305-38962 Safety Knob. On seat frames which have a pad on the inside of the frame only, use a 3/8-16 x 1 3/4" grade 5 cap screw.(FIGURE C) On seat frames which have a pad on both the inside and the outside of the frame, use a 3/8-16 x 2" grade 5 cap screw.(FIGURE D) Install the proper length cap screw, with lock washer under head, through the frame. Attach the Safety Knob and torque the cap screw to 27 ft. lbs.



When installed, the striker plate should extend a minimum of 1/8" beyond the edge of the frame.

FIGURE B

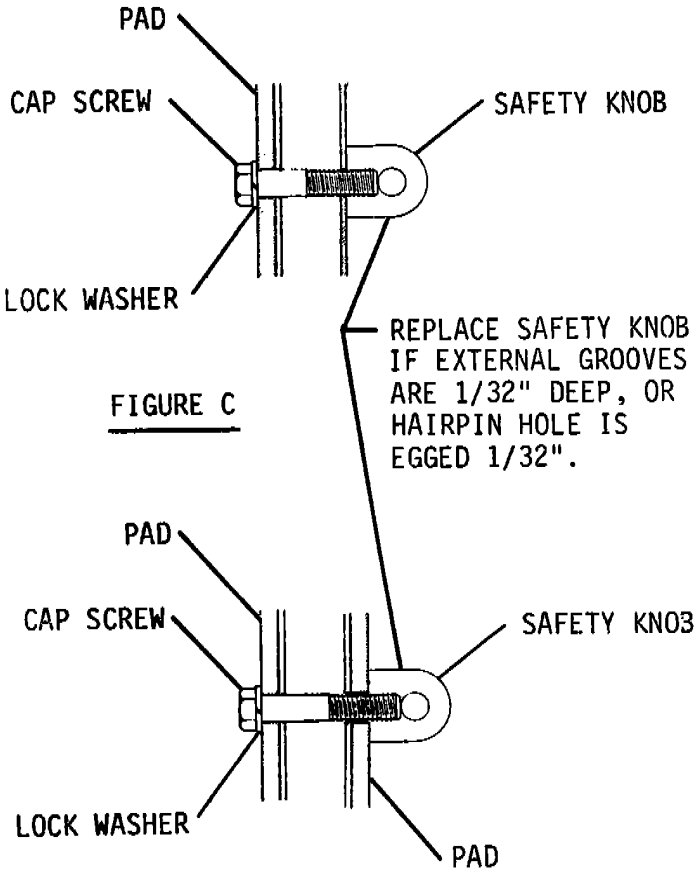


FIGURE C

FIGURE D

Number: 58

Date: 7-25-73

Supersedes:

America's Largest Manufacturer of Amusement Rides

SERVICE BULLETIN

Effective Serial Numbers:

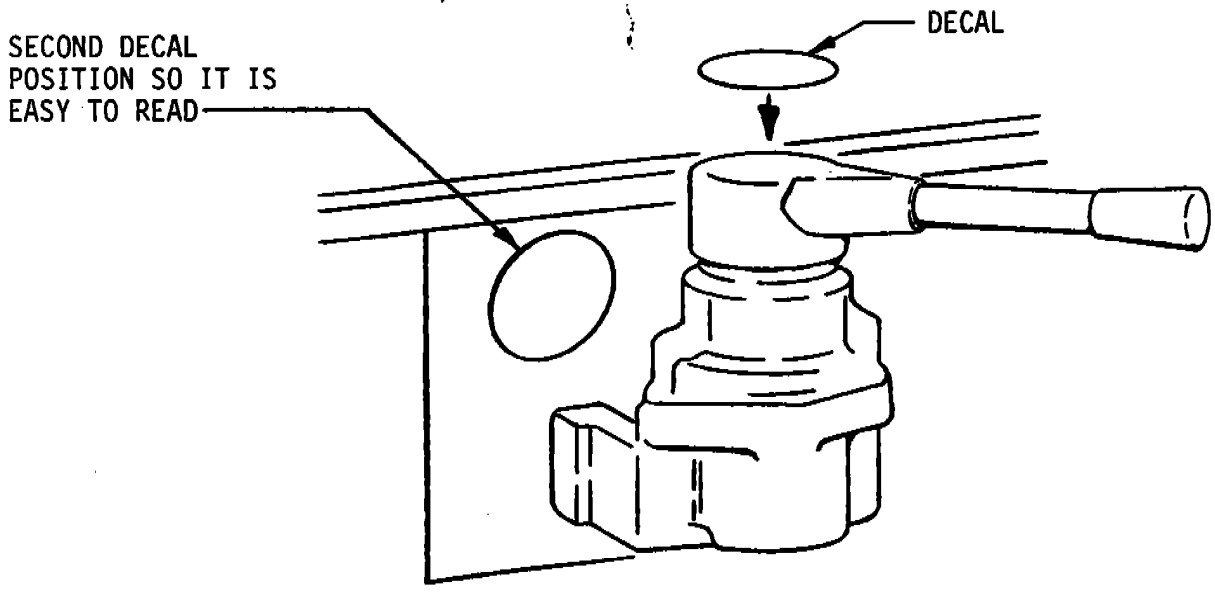
Ride: ZIPPER - ELECTRIC DRIVE ONLY

Subject: DECAL INSTALLATION

Enclosed with this sheet are two small self-stick decals. The decals say "Holding Brake Only". One decal is to be applied to the side of the parking brake. The decal is cut to fit over the area that reads "Not for Parking". The brake system is designed to hold the ride still only after it is stopped. Do not use the brakes to stop the ride.

Apply the decal to the brake valve, making sure the surface is clean, especially free from grease or oil. A non-oil base solvent such as alcohol or paint thinner is a good thing to use to assure a clean surface.

Attach the second decal to the mounting bracket or fence near the valve where the ride operator can easily see it. Again, make sure the surface is clean.



Factory and Sales Office: 4219 Irving • P.O. Box 12328 • Wichita, Kansas 67277 • (316) 942-7411

NUMBER: B106R1116-0

DATE: NOV. 16, 1992

SUPERSEDES:

America's Largest Manufacturer of Amusement Rides

SERVICE BULLETIN

Effective Serial Number: All Units - Chance Rides, Inc.
All Units - Chance Manufacturing Co., Inc.

Chance Rides, Inc. SPECIFICALLY DISCLAIMS ANY LIABILITY for losses associated with rides produced by Chance Manufacturing Company, Inc.

Ride: ZIPPER

Subject: Safety Notice

In an effort to maintain the highest level of safety, Chance Rides, Inc. has reviewed the action of the ZIPPER amusement ride and the standard operating safety practices. For the safety of all passengers, Chance Rides, Inc. has revised its standard operating policy for the ZIPPER. Chance Rides, Inc. requires all owner/operators of Zipper rides to adopt the new safety policies, outline in this bulletin, into practice.

The remote control switch, which plugs into the operator's control pedestal, must be used only for set-up and tear-down of the ride. This remote control switch is not to be used during loading and unloading of the seats when the ride is in operation.

All safety announcements given to passengers as they load should include, but not be limited to the following:

1. No single riders.
2. Secure all lose articles.
3. To properly ride this ride, all passengers must hold onto the grab bars on the inside of the door, with both hands when the ride is in motion.

In addition to the above safety announcement items, no person who is pregnant, visibly ill, or under the influence of drugs or alcohol must be permitted to ride.

Chance Rides, Inc. has also increased the height restrictions for passengers on the ZIPPER Ride. NO ONE UNDER 48 INCHES IN HEIGHT SHALL BE PERMITTED TO RIDE.

Chance Rides, Inc. has developed a NOTICE TO PASSENGERS decal, part number 22181605, available at no charge if ordered within 90 days of the date on this bulletin. All owner/operators of ZIPPER amusement rides are required to either order and install this decal or to post signage of similar wording. All NOTICE TO PASSENGERS decals should be installed as outlined in this bulletin.

Factory and Sales Office: 4219 Irving · P.O. Box 12328 · Wichita, Kansas 67277-2328 · (316) 942-7411 · FAX: (316) 942-7416

NUMBER: B106R1170-0

DATE: MAY 12, 1995

SUPERSEDES: B106R1014-0
B05-0258-0A

America's Largest Manufacturer of Amusement Rides

SERVICE BULLETIN

Effective Serial Number: All Units - Chance Rides, Inc.
All Units - Chance Manufacturing Co., Inc.

Chance Rides, Inc. SPECIFICALLY DISCLAIMS ANY LIABILITY for losses associated with rides produced by Chance Manufacturing Company, Inc.

Ride: ZIPPER

Subject: Seat Hangers

This Chance Rides, Inc. Service Bulletin supersedes bulletins numbered B106R1014-0 and B05-0258-0A. All copies of these two bulletins should be destroyed.

Chance Rides, Inc. has developed a new seat hanger for the above noted ZIPPER amusement rides. This improved product design utilizes a wider bearing surface on which the tapered pin holding the seat will rest. The wider bearing surface is designed to increase the life expectancy of the seat hanger.

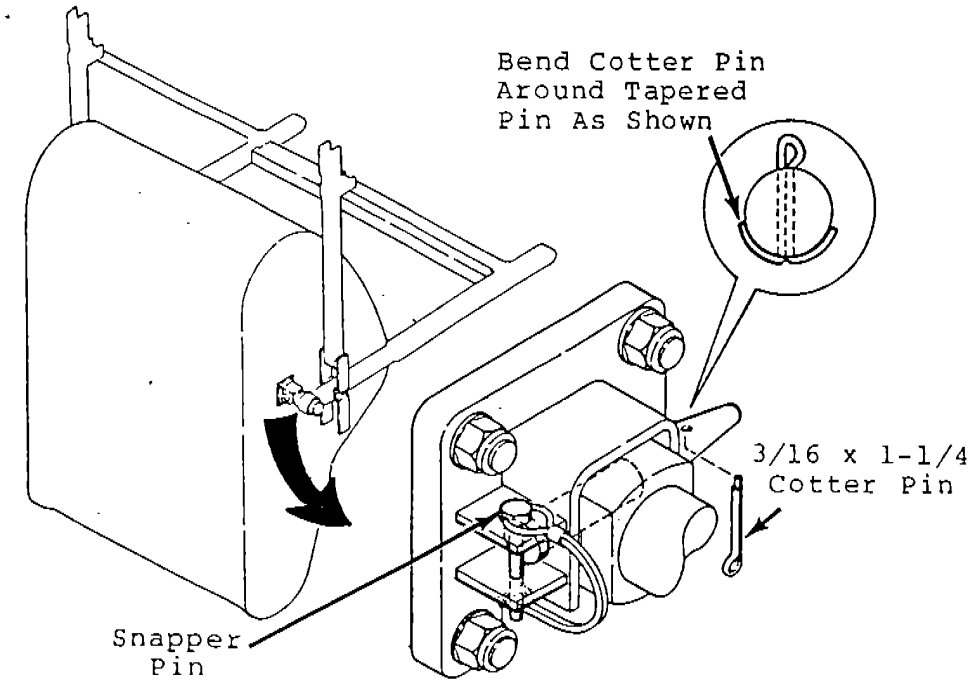
Due to the increase in the bearing surface, the new seat hanger will require a longer tapered pin and a longer capscrew to hold the tapered pin in place. For those rides on which two seats are removed and racked on the trailer deck, the same snapper pin can still be used.

NOTE: There is no longer a right hand and a left hand seat hanger. The same hanger is used on both sides. This means that the tapered pin will face in one direction on one side of the seat and the opposite direction on the other side of the seat.

Chance Rides, Inc. requires replacement of the ZIPPER seat hangers for both the old style and the new style hanger when the hole for the taper pin exceeds .860 of an inch. Order new parts using the part numbers shown on this bulletin.

Factory and Sales Office: 4219 Irving · P.O. Box 12328 · Wichita, Kansas 67277-2328 · (316) 942-7411 · FAX: (316) 942-7416

2. If the ride has two (2) seats which rack on the trailer deck, install the snapper pins through the seat hanger behind the head of the tapered pin as shown. Also install the cotter pin in the hole of the tapered pin.



NUMBER: B106R1171-0

DATE: AUG. 3, 1995

SUPERSEDES:

America's Largest Manufacturer of Amusement Rides

SERVICE BULLETIN

Effective Serial Number: All Units - Chance Rides, Inc.
All Units - Chance Manufacturing Co., Inc.

Chance Rides, Inc. SPECIFICALLY DISCLAIMS ANY LIABILITY for losses associated with rides produced by Chance Manufacturing Company, Inc.

Ride: ZIPPER

Subject: Trolley Wheel Installation

On the above noted ZIPPER amusement rides, two different types of trolley wheels are used. One is commonly referred to as a hard wheel, part number 38635700. The other trolley wheel is commonly referred to as a soft wheel, part number 28632600. Each ZIPPER ride requires twenty-four (24) hard wheels and ninety-six (96) soft wheels.

It has come to the attention of Chance Rides, Inc. that during replacement of the trolley wheels, some are not being properly installed. Proper installation of the trolley wheels is required for the safe operation of the ride. Failure to properly install a trolley wheel can result in personal injury to those near the ride, due to the separation of the wheel from the ride. All owner/operators of ZIPPER amusement rides are required to adhere to the following specifications when replacing trolley wheels.

The soft wheels presently used are equipped with sealed bearings. These wheels require a longer hex head capscrew than the soft wheels which did not have sealed bearings. The proper hex head capscrew to be used with a soft wheel that has a sealed bearing is a 3/8-16 x 2 3/4 grade 8. Some soft wheels are secured in place by means of a 3/8 lock washer and a 3/8-16 hex head nut while others fasten directly in to a blind hole.

ZIPPER rides with a serial number of 73-1878 and on require a special adaptor to be used with the hard wheels. The part number for the adaptor is 37011800. The adaptor is inserted through the hard wheel with the wheel being secured in place by a 1/2-13 x 2 grade 8 hex head capscrew, part number 60849600.

NUMBER: A106R1173-0

DATE: AUG. 4, 1995

SUPERSEDES:

America's Largest Manufacturer of Amusement Rides

SAFETY ALERT

Effective Serial Number: All Units - With New Style Seat Hangers
Chance Rides, Inc.
Chance Manufacturing Co, Inc.

Chance Rides, Inc. SPECIFICALLY DISCLAIMS ANY LIABILITY for losses associated with rides produced by Chance Manufacturing Company, Inc.

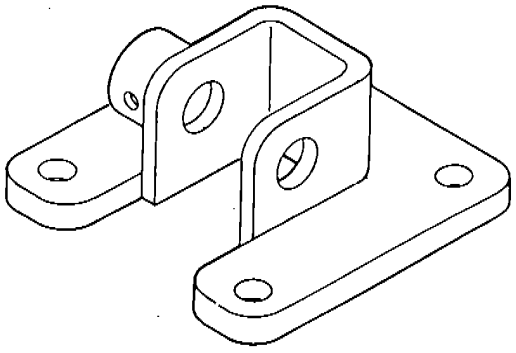
Ride: ZIPPER

Subject: Seat Hangers

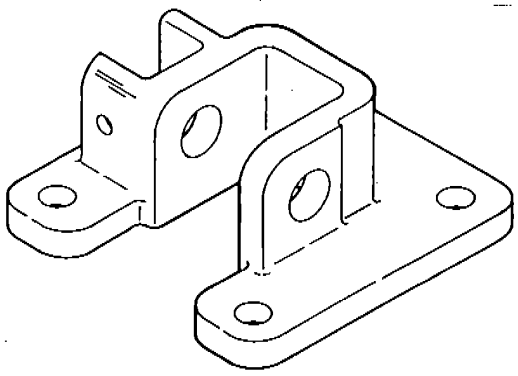
WARNING: Failure to comply with this Safety Alert Bulletin can result in injury to passengers.

Chance Rides, Inc. has become aware of cracks developing in the new style ZIPPER seat hangers. All owner/operators of the above noted ZIPPER amusement rides are required to perform the inspection outlined in this Safety Alert.

Note: This inspection pertains to the new style seat hanger only.



old style
(weldment)



new style
(casting)

Factory and Sales Office: 4219 Irving · P.O. Box 12328 · Wichita, Kansas 67277-2328 · (316) 942-7411 · FAX: (316) 942-7416

ZIPPER

Field inspection and test guide

Manual number 24329310

ZIPPER

Field inspection and test guide

Contents

CHANCE RIDES, INC.
4219 Irving
P.O. Box 12328
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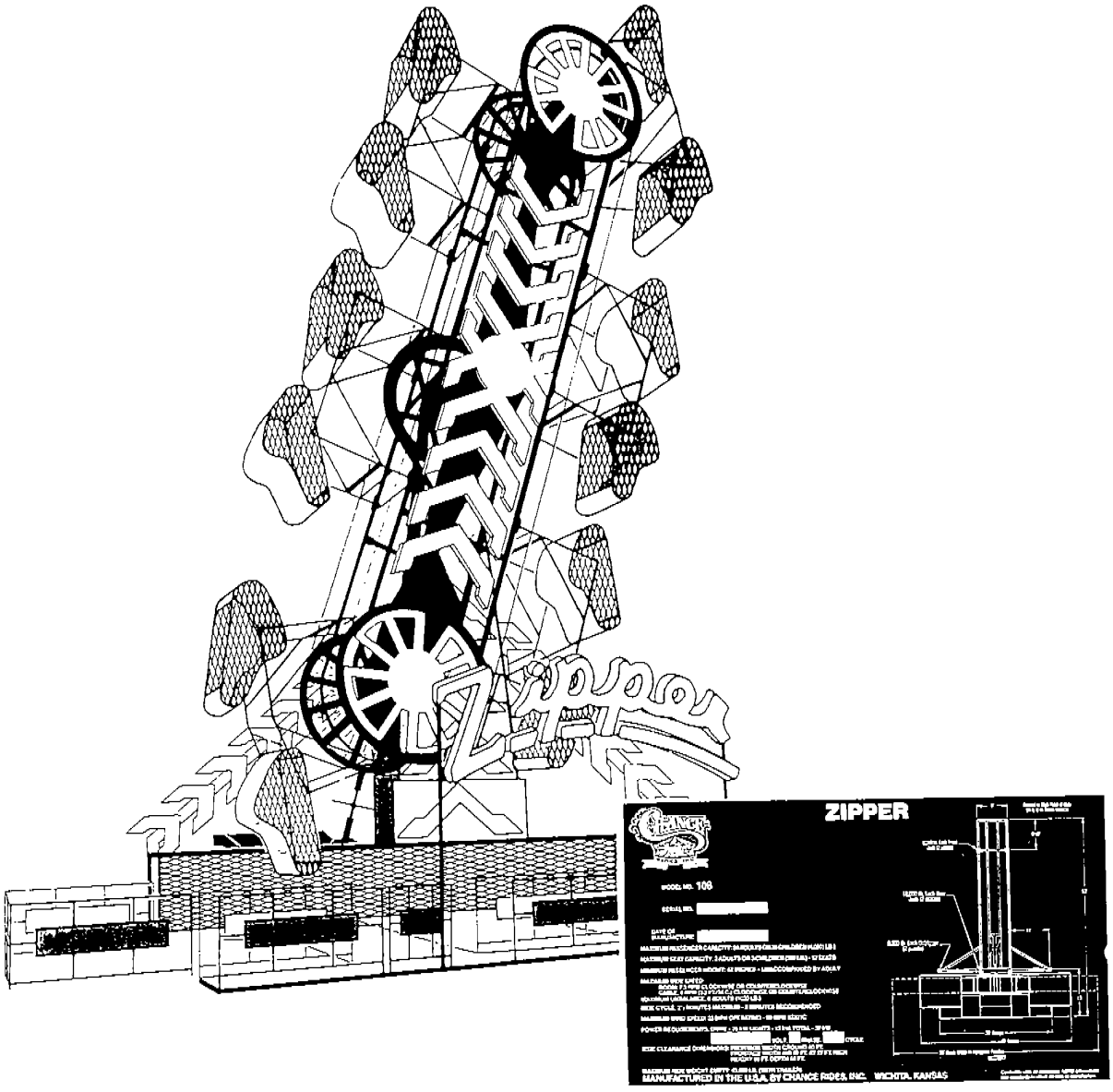
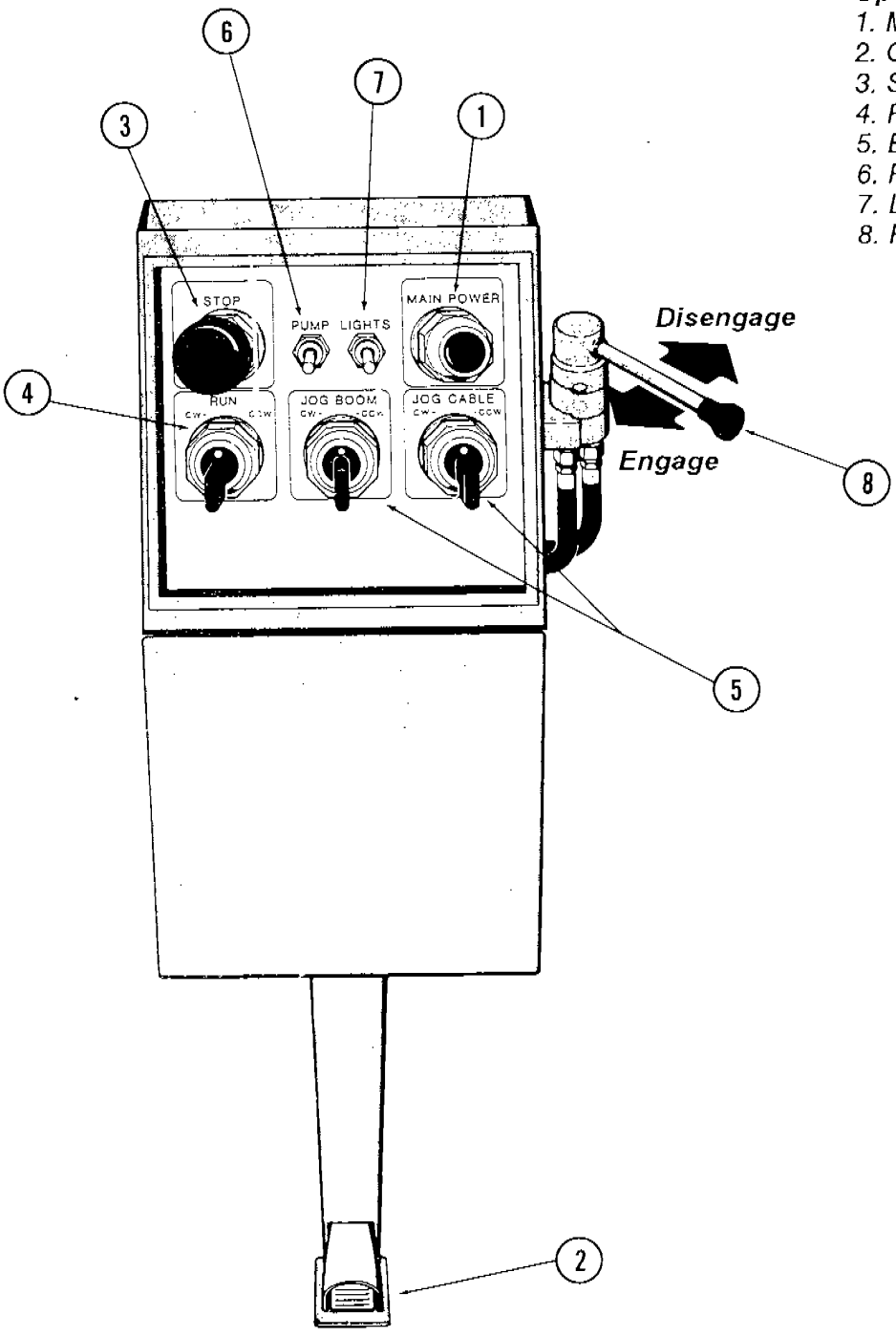


The ride information plaque is mounted to the right hand stub tower.

The terms "right hand" and "left hand" as used in this manual are determined by standing in front of the ride and facing the ride.



Operator's control panel

1. Main power switch
2. Operator presence switch
3. Stop switch
4. Run switch
5. Boom and cable jog switch
6. Pump switch
7. Lights switches
8. Park brake

General inspection and testing

Testing

Field performance testing of amusement rides[1]

The following specifications conform with ASTM F846 standard guide for *Testing Performance Of Amusement Rides And Devices*, in effect on date of ride manufacture.

Erection or installation testing

Each erection or installation of a ride shall be given an inspection prior to carrying passengers that shall include but not be limited to the following:

a. Determine that ride has been erected according to the set-up procedures in the operations manual.

b. Inspect field inspection points listed in the *Field Inspection Guide*.

c. Visual check of all passenger carrying devices including restraint devices and latches, and the pins and capscrews securing them.

d. Visual inspection of entrances, exits, stairways and ramps and devices securing them.

e. Test of all communications equipment necessary for operation of the ride or device.

f. Operate the ride to determine that direction of travel conforms to the information plate, ride manual field inspection guide of specification sheet.

g. Operate the ride for a minimum of three ride cycles to determine that the ride speed does not exceed the speed specified in the information plate, ride manual field inspection guide of specification sheet.

Daily pre-opening inspection

This inspection shall include a daily inspection of all items as specified in the previous item (erection or installation testing).

1 8090R1002-0 May 14, 1995

Non-destructive testing[7]

REFERENCE STANDARD *1. ASTM-F24 Standard On Amusement Rides And Devices*
a. F846-86 Testing Performance Of Amusement Rides
b. F853-86 Maintenance Procedures For Amusement Rides And Devices
c. F893-87 Inspection Of Amusement Rides And Devices

CHANCE RIDES, INC., at the time of design and manufacture, determines by calculations and testing of a prototype amusement ride the appropriateness for use, of not only the parts, but the entire system of a newly designed ride. These calculations and tests are utilized to, as feasibly as possible, determine the requirements for expected design life of major components. Based on this design criteria, CHANCE RIDES, INC. does not identify critical components on amusement rides to be singled out for non-destructive testing.

If through field experience, there is an indication that a structural or mechanical problem may develop on rides currently operating, CHANCE RIDES, INC. will notify owners by bulletin of the recommended procedures to inspect and correct the possible problem. Any possible defect which could affect the continued safe or proper operation of the ride should be reported immediately to the manufacturer by the owner/operator. This information is necessary so that a determination can be made for either the repair or replacement of the possible defective parts.

Field repairs should not be undertaken without the approval and proper instructions from the manufacturer and should be performed by qualified personnel. These persons should have a complete understanding of both the component's function and the manufacturer's instructions.

It is the responsibility of the individual inspector to thoroughly inspect the ride as he deems necessary based on his knowledge and field experience and manufacturer's recommendations. If the inspector finds an area or component that could be a problem, structural or otherwise, the factory should then be notified. It is then the responsibility of the inspector to ensure that the manufacturer's recommendations for repair,

7 B080R1022-0 March 21, 1988

Size Diameter - Threads/inch	Foot pound torque range (see notes 1 and 2) with locknut and hardened washer	
	SAE J429 Grade 5 ASTM A325	SAE J429 Grade 8 ASTM A490
1/4 - 20	5-6	7-8
1/4 - 28	6-7	8-10
5/16 - 18	11-13	15-18
5/16 - 24	12-15	17-21
3/8 - 16	19-24	27-33
3/8 - 24	22-27	31-38
7/16 - 14	30-35	45-55
7/16 - 20	35-40	50-60
1/2 - 13	50-60	65-80
1/2 - 20	55-65	75-90
5/8 - 11	95-115	130-160
5/8 - 18	105-130	150-180
3/4 - 10	165-200	235-285
3/4 - 16	185-225	260-320
7/8 - 9	270-325	380-460
7/8 - 14	295-360	415-505
1 - 8	400-490	565-690
1 - 12	440-535	620-755
1 1/8 - 7	495-600	800-975
1 1/8 - 12	555-675	900-1095
1 1/4 - 7	700-850	1135-1380
1 1/4 - 12	775-940	1255-1525
1 1/2 - 6	1215-1480	1975-2395
1 1/2 - 12	1370-1660	2220-2700

Torque chart

Torques for functional load carrying cold finished hex head capscrews with dry rolled threads, used with locknuts (see note 3), and tightened with an ASTM A325 hardened washer under the capscrew or locknut head (whichever is accessible for tightening).

This torque range will develop 60% to 70% of proof load.

*Refer to **Replacement of capscrews and locknuts** for conditions requiring replacement*

NOTES

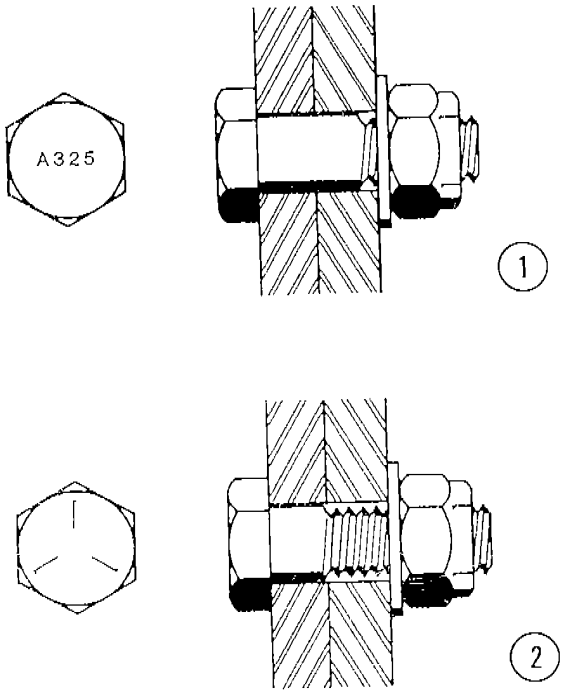
1. Use anti-seize lubricant on capscrew shank when tightened from head end.

2. Use 10% less torque when anti-seize or other lubricant is used on threads.

3. Use same torque range for holes tapped in steel.

Capscrew grades

CHANCE RIDES, INC. uses only grade 5 or better capscrews and grade 8 locknuts, with A325 hardened washers for functional loads. The *Grade markings chart* shows the capscrew markings to be found on CHANCE rides. The manufacturer's identification symbols must be present on all functional load carrying capscrews.



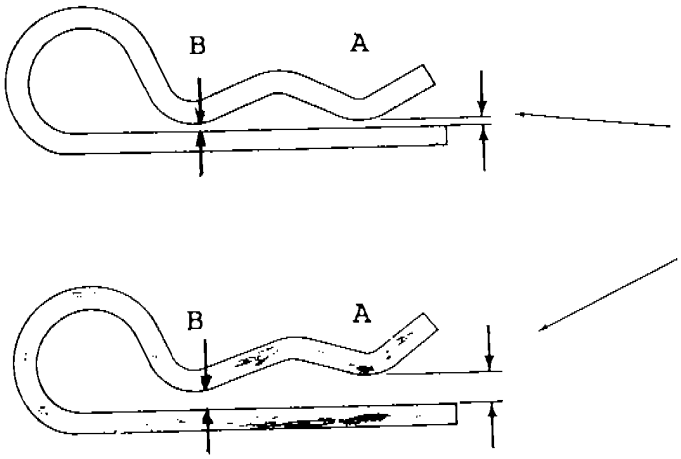
Capscrew comparison
1. ASTM A325 Capscrew
Longer shank
shorter threads
2. Grade 5 capscrew
Shorter shank
longer threads

Replacement of capscrews and locknuts
When permanently installed capscrews and locknuts are disassembled for repair or adjustment, they must be replaced if they have been in service over five (5) years, or corrosion, or other damage requires over-torquing for removal. If a torque wrench is not used to measure excessive removal torques, the capscrews and locknuts must be replaced.

Capscrews and locknuts which are frequently disassembled for portability must be replaced each operating season. If the capscrews and locknuts become damaged, corroded or require excessive torque for removal, they must be replaced. If a torque wrench is not used to measure excessive removal torques, the capscrews and locknuts must be replaced.

Pins[12]

Tapered pins used on amusement rides are subject to deterioration due to improper use and wear. CHANCE RIDES, INC. specifies certain pins for certain applications on

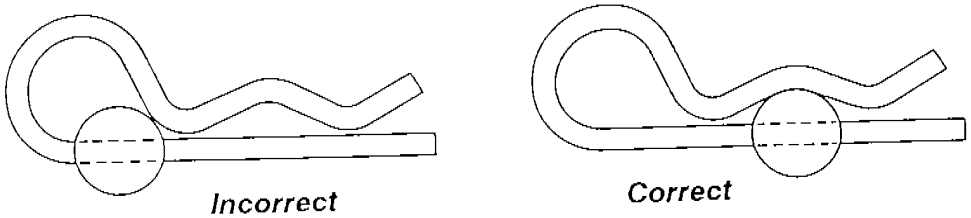


Acceptable hair pins
Dimension "A" equals dimension "B" in a relaxed position

Unacceptable hair pins
Dimension "A" is greater than dimension "B" in a relaxed position

NEVER ATTEMPT TO BEND A HAIR PIN BACK INTO SHAPE. REPLACE IT WITH A NEW PART.

The correct installation of a hairpin is shown. Incorrectly installed hairpins are more likely to fail, and will distort after only a few uses.



Incorrect *Correct*

CHANCE RIDES, INC. recognizes and recommends the safety procedures specified in *ASTM Standards F770 Operation Procedures for Amusement Rides and Devices and F853 Maintenance Procedures for Amusement Rides and Devices.*

Inspection

Joint inspection

Some joints will appear to wear rapidly on new rides. This is usually a result of the holes not aligning in the mating parts. When this condition occurs it results in "point contact". A joint with this condition will generally wear rapidly until the load is distributed evenly over the fastener and the parts.

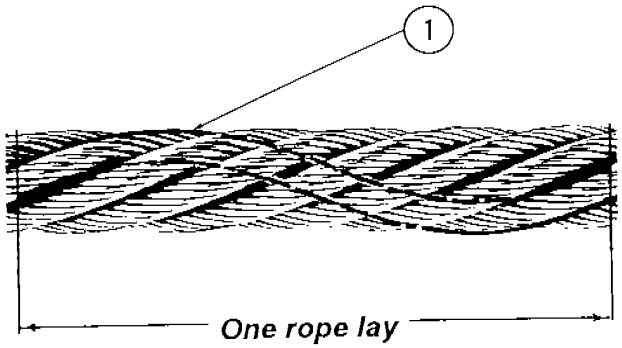
Kinking

Crushing

Bird caging

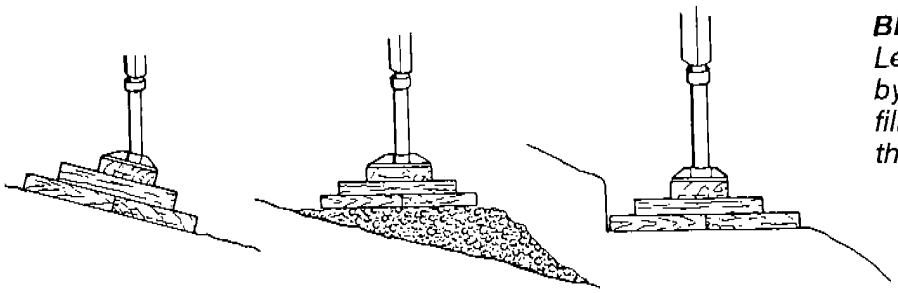
4. One strand being 75% broken through.

5. A number of wires, equal to the number in a strand, broken in the length of one rope lay.



"Lay" as a unit of measure

1. One strand



No ! Poor Better

Blocking on a slope
Level the ground beneath blocking by digging where possible. Don't fill, the fill dirt will be soft allowing the ride to tilt

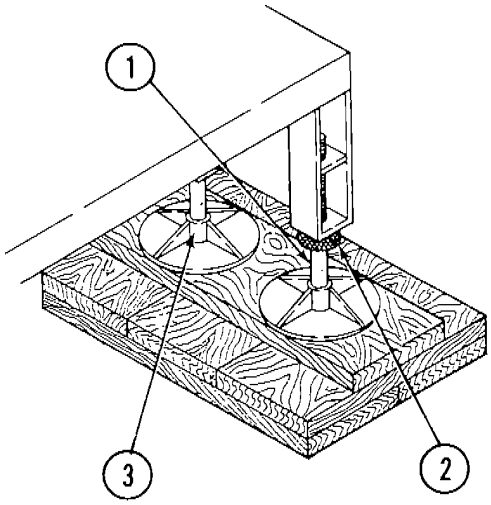
5. Inspect hydraulic leveling jacks for leaks at every set-up. The hydraulic jacks are for leveling purposes only. They must be retracted and their shut-off valves closed during normal ride operation. Likewise, they must be fully retracted and their shut-off valves closed before transporting the ride.[8] Check for installation of safety decals at each jack and near the shut-off valves.

⚠ WARNING

RETRACT THE HYDRAULIC LEVELING JACKS AND CLOSE SHUT-OFF VALVES FOR THE JACKS DURING NORMAL RIDE OPERATION.

If the valves are left open, hydraulic pressure from the drive system, or pressure from hydraulic oil expanding due to heat can cause one or more of the jacks to extend, making the ride unstable. Injuries to passengers and/or bystanders can result.

6. Check the lock rings on all screw jacks for tightness.



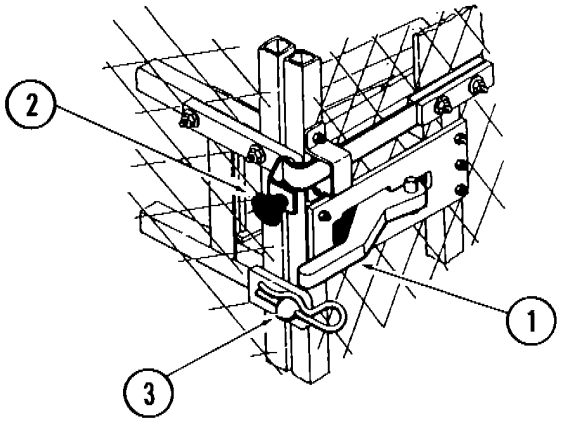
1. Screw jack
2. Lock ring
3. Hydraulic leveling jack

14. Make modifications and additions only as outlined in manufacturer's service and safety bulletins.

Lap bar latch inspection

Perform the following lap bar latch inspection procedure on every vehicle.

1. Move the lap bar latch to the fully open position and release the handle. The lap bar latch must return to the fully closed position against the stop.



1. Lap bar latch
2. Spring latch
3. Safety knob

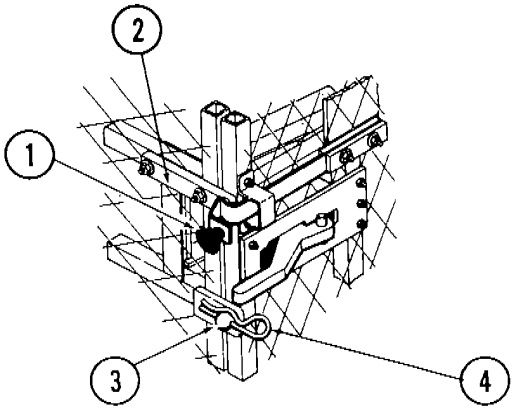
2. Open and close the door while observing the operation of the latch. The latch must return to the fully closed position against the stop.

Door latch inspection

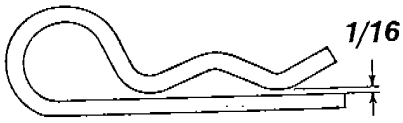
Perform the following door latch inspection procedure on every vehicle.

1. The spring latch must be centered on the striker plate. It must clear the base of the retainer clip by no more than 1/16 inch.

2. Inspect each spring latch for bends, wear or damage. Check the expiration date on each spring latch. The spring latches must be replaced before the expiration date, or if the date has been altered, painted over or it otherwise illegible.



1. Spring latch
2. Striker plate
3. Safety knob
4. Hairpin



3. Check for loose capscrews in the retainer clip.

4. Inspect the striker plate. It must extend at least 1/8 inch past the vehicle frame when the door is closed.

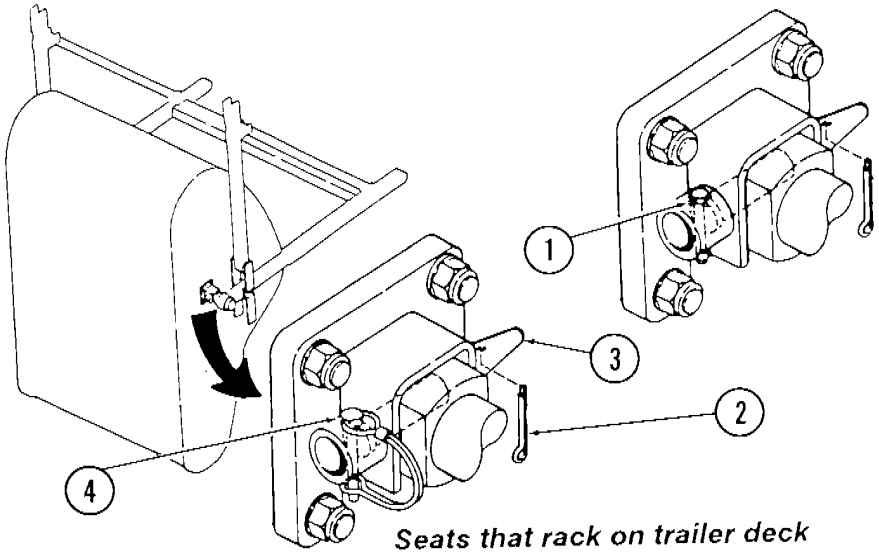
5. Inspect the safety knobs. The maximum allowable wear in the hairpin hole is 1/32 inch out-of-round. Maximum allowable outside groove depth is 1/32 inch.

6. Tighten the safety knob to 24 ft-lbs. It must not be loose.

7. Check the condition of all hairpins for door latches. Check for distorted or "sprung" hairpins. Each hairpin must require at least 8 pounds of force to remove it from the safety knob.

General vehicle inspection

1. With all vehicles installed, inspect the seat hangers for installation of the proper hardware as follows[6]:



Seats that rack on boom

1. Special capscrew and nut
2. Cotter pin
3. Tapered pin
4. Snapper pin

Seats that rack on trailer deck

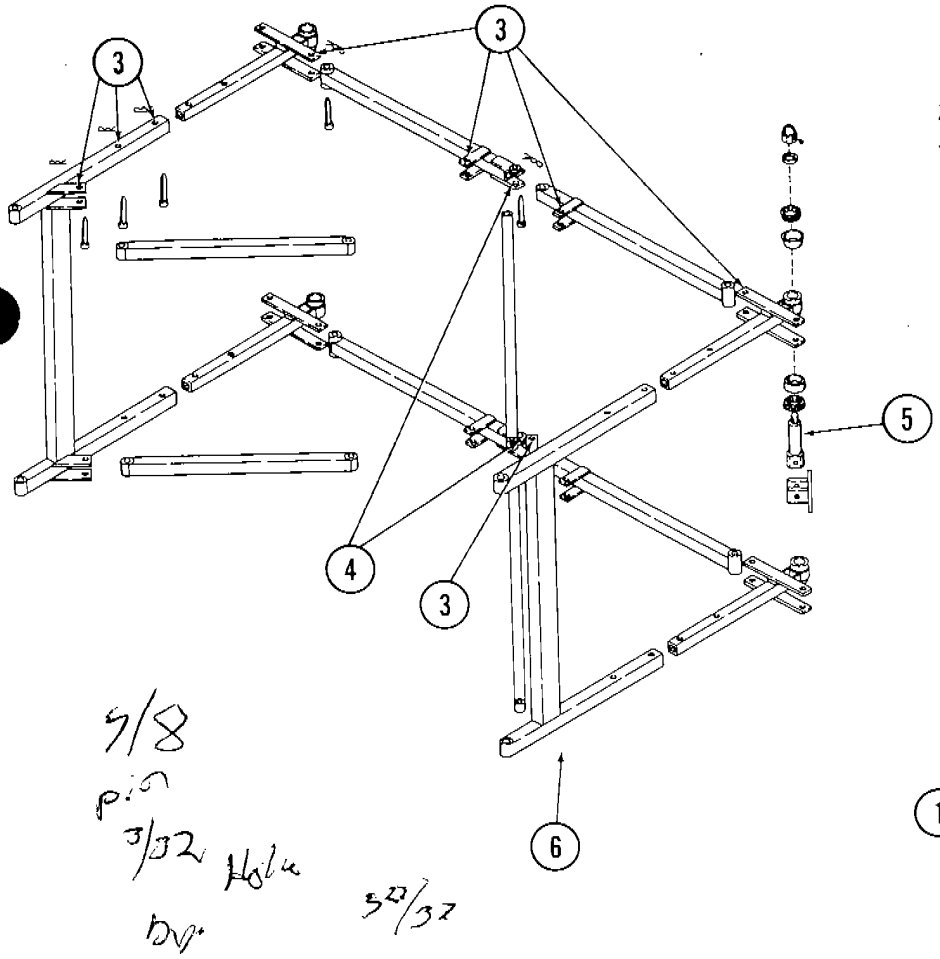
- A special screw must be installed through the tube in the seat hanger, behind the head of the pin. The nut must be tightened until two or three threads protrude from the lock ring on the nut. DO NOT OVER-TIGHTEN. A cotter pin must be installed on the other end of the pin as shown.
- On rides which rack two seats on the trailer deck, snapper pins are installed behind the head of the pin as shown. The cotter pin is installed in the other end of the pin. Hairpins are not allowed.

2. Inspect for loose capscrews which attach the seat hangers to the vehicle frames. These are Grade 5 capscrews and must be tightened to 50-60 ft-lbs.

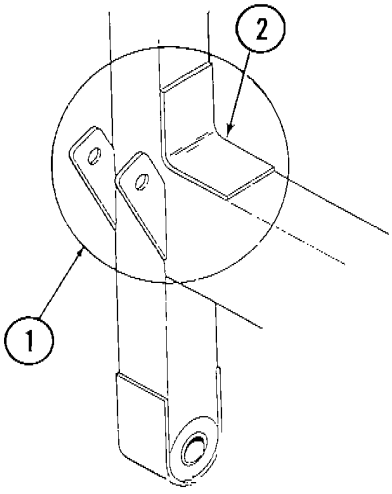
3. Open and close the doors and check for smooth hinge operation. Check for binding against the vehicle frame. Make sure the door closes over the safety knob without forcing.

Seat support frame inspection

1. Inspect each seat support frame for cracks in the area shown[9]. All frames must have the reinforcing gussets.



1. Inspect here for cracks
2. Gusset
3. Norminal hole size 1/2" maximum 19/32"
4. Nominal hole size 3/4" maximum 27/32"
5. Seat spindle
6. Seat support frame



5/8
pin
3/32 Hole
DP.
29/32

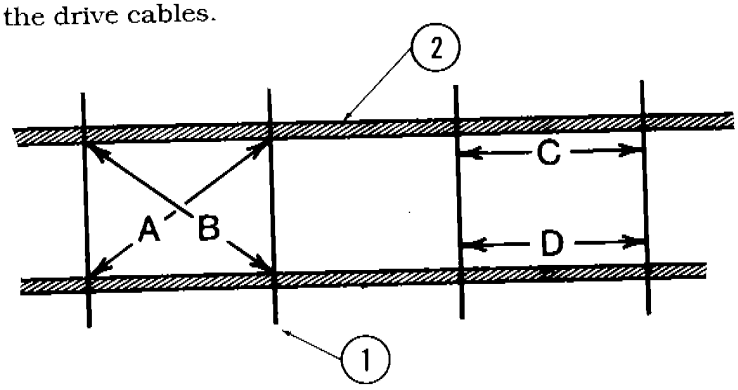
2. Inspect the seat pivot bearings for smooth operation.

3. Check the installation of all pins and hair pins in the seat support frames. All pins must be installed so that the heads are to the inside of the frame. Check for worn pin holes.

2. Check the cable clamps and U-bolts on the seat support axles. Look for wear on the U-bolts and clamp areas. U-bolts must be tight.

3. Inspect the seat support axle for wear as shown[3].

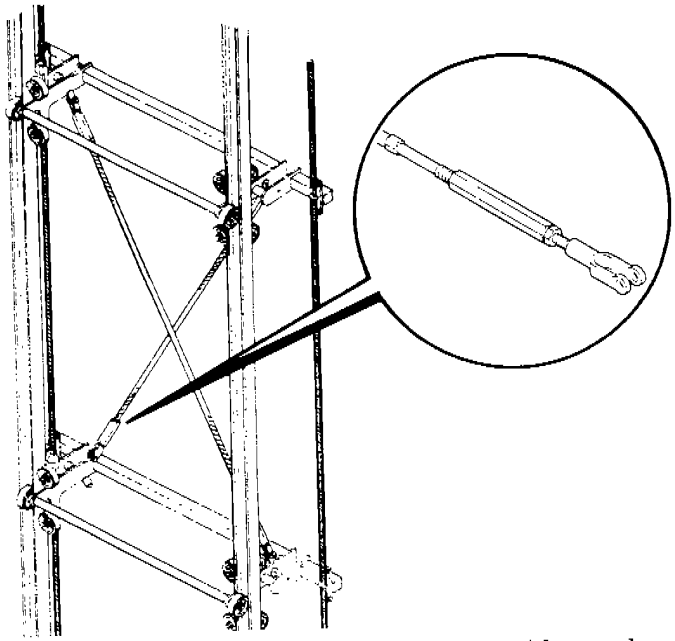
4. With the ride fully erected, check for proper alignment of seat support axles. Axles must be installed at 90 degrees to the drive cables.



1. Seat support axle
2. Drive cable

Axles are aligned when "A"="B" and "C"="D".

5. Inspect for installation of cross cables. There must be a set of cross cables installed at every third space between seat support axles. Turnbuckles must be snug.

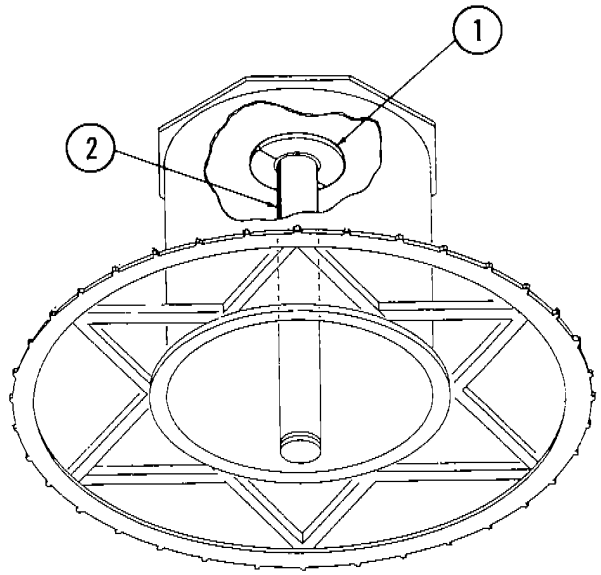


Cross cables

6. Inspect the seat support axle structures for visible cracks and damage.

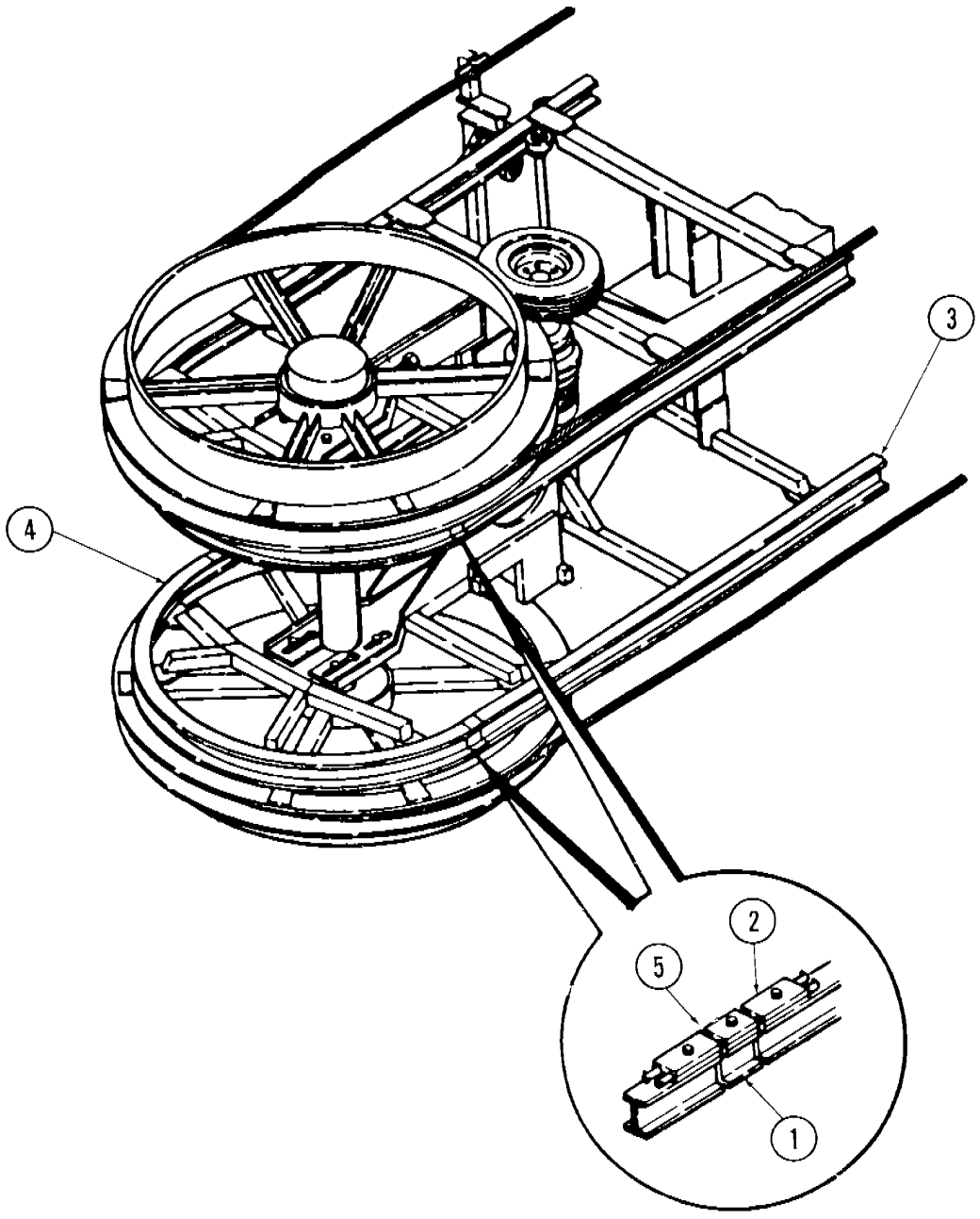
3 B106R1007-0 April 27, 1987

a. Pre-clean - Lightly dress weld areas as shown with a grinding pad to remove rust, paint and other contaminants.
b. Apply penetrant - The visible dye, color-contrast, solvent-removeable penetrant must thoroughly cover the weld areas.
c. Dwell time - The penetrant must remain on the area of interest for at least ten minutes.
d. Excess penetrant removal - Wipe as much of the penetrant from the weld area as possible using a clean, dry, lint-free cloth. Remove the restidue by wiping with a clean, dry, lint-free cloth moistened with the cleaner remover.
e. Developer application - Apply a thin, even coating of a non-aqueous developer to the weld area and allow it to develop for at least seven minutes.
f. Inspection - Thoroughly inspect all weld areas for linear indications. Send a copy of the test report to CHANCE RIDES, INC.
g. Post-clean - Clean weld areas with penetrant cleaner remover and wipe off residues with a clean cloth.



1. Repair kit
2. Spindle

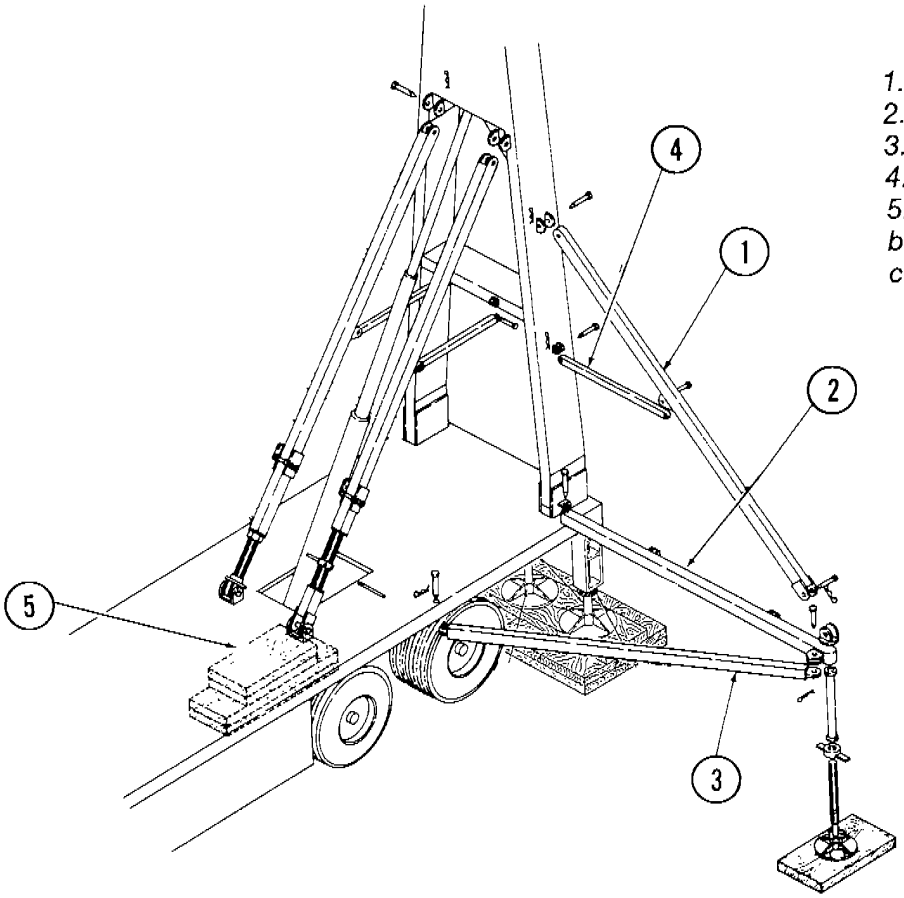
NOTE: If the repair kit shown has been installed, an annual visual inspection can be made in lieu of the liquid penetrant inspection procedure. Thoroughly clean all weld areas with a suitable solvent to remove dirt and grease residues. Inspection must be done from inside and outside of the boom area.



1. *Track spacer*
2. *Attaching plate*
3. *Straight track section*
4. *Track end*
5. *Maximum space 1"*

Trailer and tower inspection

1. Inspect the pins and hairpins in the tower braces, wind braces and outriggers.



1. Windbrace
2. Outrigger
3. Outrigger brace
4. Tube brace
5. 1" inch maximum clearance between blocking and tower lift cylinder support

2. Inspect the outriger braces. The screw jacks must be tight.

3. Inspect the tower and trailer structures for visible cracks or damage.

Bibliography

The following service bulletins and manuals are referenced in the preceding text. Service bulletins issued after publication of this guide are located at the back of each section. Any future bulletin releases affecting a ride will be provided by CHANCE RIDES, INC. Bulletins received after receipt of this guide should be considered updates to this guide.

Zipper Operation And Maintenance Manual
24327700
July, 1987

1. *Field Performance Testing Of Amusement Rides*
   B090R1002-0
   May 14, 1986

2. *Cable Sheave Inspection*
   B106R1006-0
   April 27, 1987

3. *Seat Support Axle Inspection*
   B106R1007-0
   April 27, 1987

4. *Track Spacers*
   B106R1008-0
   April 27, 1987

5. *Track Spacers*
   B106R1013-0
   September 9, 1987

6. *Seat Hanger Pins*
   B106R1014-0
   September 9, 1987

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