ALLAN HERSCHELL

CHANCE
MANUFACTURING CO., INC.

Number: 57
Date: 7-24-73

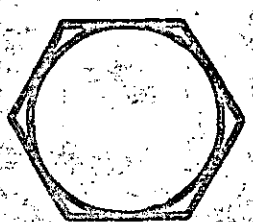
Supercedes:
Number:
Date:

Service Information

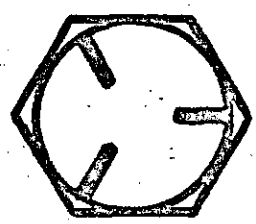
Ride: ALL RIDES **Subject:** SUB-STANDARD BOLTS

During recent inspections of rides returning to the factory, we have noticed a number of sub-standard bolts being used.

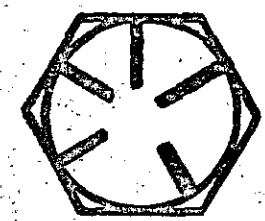
Chance Manufacturing Company uses only Grade 5 or better bolts. Bolts are identified by the markings on the bolt head. Bolts without markings are generally a Grade 2 or 3 (common hardware store variety) and are not strong enough to be used on amusement rides.



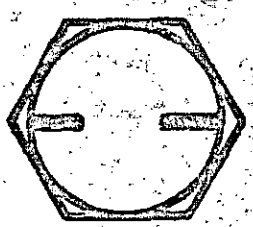
GRADE 0 THROUGH 2
No markings
on head



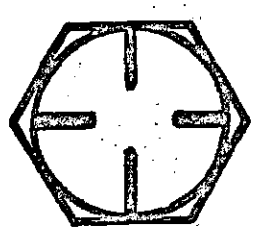
GRADE 5 BOLT
Notice head has
three raised marks.



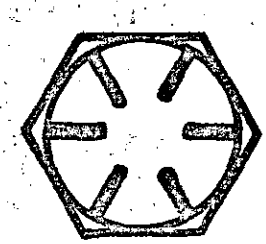
GRADE 7 BOLT
5-raised marks



GRADE 3
2-raised marks



GRADE 6 BOLT
4-raised marks



GRADE 8 BOLT
Head has six
raised marks.

When replacing any bolt, always use an equivalent or stronger bolt. Higher number equals stronger bolt.

Grades 0 through 3 are not suitable for use on amusement rides.

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Sales Office: 1103 Ross Ave., Dallas, Texas 75202 Area Code (214) 742-3802

CHANCE MANUFACTURING CO., INC.

Number: 90-148A
Date: 4-17-78

Supersedes: #90-148/
Number: 2-6-78
Date: #57/7-24-73

America's Largest Manufacturer of Amusement Rides

Service Information

Effective Serial Numbers: ALL RIDES

Ride: ALL RIDES

Subject: REPLACEMENT & TORQUING OF BOLTS

Service Information Bulletins number 57 and 90-148, having been superceded by this bulletin are no longer in effect and should be destroyed.

REPLACEMENT OF BOLTS

During normal maintenance practices, it is usually necessary to replace some bolts. They work loose because they have not been checked periodically, or they become lost when they are removed to repair some component. The point we wish to stress is the following.

Chance Manufacturing Company uses only Grade 5 or better bolts. Bolts are identified by the markings on the bolt head. Bolts without markings are generally a Grade 2 or 3 (common hardware story variety) and are not strong enough to be used on amusement rides.

When replacing any bolt, always use an equivalent or stronger bolt. Higher number equals stronger bolt.

NOTE: There are some bolts available above a Grade 8; however, these bolts are not to be used for general purposes. They are extremely brittle, and are designed for special applications.

If trouble is encountered with bolts working loose, check the tightness according to the torque chart.

If certain bolts continue to work loose, remove the bolts and inspect the threaded holes. If threads are in good condition, clean hole out with a non-oil base solvent. Blow dry and apply "Green Loctite" to threads. Install new lock washer and bolt and torque per chart.

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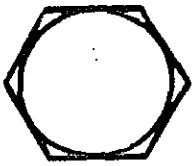
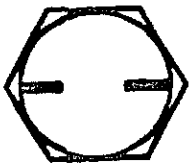
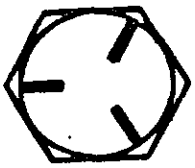


GRADE 0 THROUGH 2
No markings on head



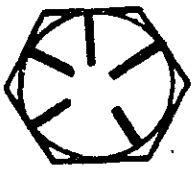
GRADE 3 BOLT
2 raised marks

Grades 0 through 3 are not suitable for use on amusement rides.



GRADE 5 BOLT
3 raised marks

GRADE 6 BOLT
4 raised marks



GRADE 7 BOLT
5 raised marks

GRADE 8 BOLT
6 raised marks

TORQUE METHODS (NO TORQUE WRENCH)

LEVERAGE METHOD

The average 200-225 lb. mechanic, while standing on his feet, can apply a steady pull with his good arm (right arm if right-handed, etc.) of between 100 and 110 pounds. This pull is obtained without bracing his feet or free hand against any solid object such as work bench or machinery being worked on. If a torque of any given value is desired, it becomes a simple matter of leverage. If the mechanic in question is tightening a 7/8" UNC thread bolt which recommends 520 ft. lbs. of torque, this value can be reached by using a heavy duty socket wrench and slipping a 5 ft. length of pipe over the handle of the wrench.

Thus, if the mechanic can exert a 100 lb. pull, 5 ft. times 100 lbs. would equal 500 ft. lbs. If he exerted a 110 lb. pull, it would result in 5 times 110 or 550 ft. lbs. Any other desired torques can be reached by simply dividing the desired torque value by approximately 110 to determine the length of pipe or "Cheater bar" that is needed.

TURN OF THE NUT METHOD

This method applies only to bolts with UNC threads. If the bolt is shorter than eight times its diameter, tighten the nut until the pieces being joined are snugged up, put a reference mark on the nut or the socket wrench being used and tighten the nut, while preventing the bolt from turning, until the nut has been turned an additional one-half of a turn. If the bolt is longer than eight times its diameter, proceed as before but tighten the nut an additional two-thirds of a turn. This will apply a preload to the bolt that will be very close to the same value that would be achieved if a torque wrench had been used.

BOLT TORQUE CHART

CAUTION: TORQUE VALUES ARE GIVEN FOR STEEL BOLTS IN STEEL THREADED HOLES ONLY. BE CERTAIN THREADED PARTS ARE NOT ALUMINUM, BRASS, OR OTHER SOFT ALLOY.

BOLT SIZE DIA. & THREADS	SAE GRADE 5 DRY - LUBRICATED VALUES IN INCH LBS.		SAE GRADE 8 DRY - LUBRICATED VALUES IN INCH LBS.	
1/4 - 20	72	54	108	81
1/4 - 28	84	63	132	99
	ALL VALUES BELOW IN FOOT LBS.		ALL VALUES BELOW IN FOOT LBS.	
5/16 - 18	11	8	17	13
5/16 - 24	13	10	20	15
3/8 - 16	24	18	36	27
3/8 - 24	27	20	42	32
7/16 - 14	36	27	55	41
7/16 - 20	43	32	66	50
1/2 - 13	55	41	85	60
1/2 - 20	65	49	100	75
9/16 - 12	80	60	123	92
9/16 - 18	86	65	132	99
5/8 - 11	105	79	162	122
5/8 - 18	125	94	192	144
3/4 - 10	180	135	277	208
3/4 - 16	220	165	338	254
7/8 - 9	310	233	477	358
7/8 - 14	360	270	554	416
1 - 8	430	323	662	497
1 - 12	510	383	784	588
1 1/8 - 7	550	413	846	635
1 1/8 - 12	650	488	1000	750
1 1/4 - 7	700	525	1077	808
1 1/4 - 12	820	615	1262	947
1 3/8 - 6	962	722	1481	1111
1 3/8 - 12	1109	831	1708	1281
1 1/2 - 6	1365	1024	2100	1575
1 1/2 - 12	1540	1155	2372	1780

CHANCE MANUFACTURING CO., INC.

Number: 90-149
Date: 2-14-78

Supersedes:
Number:
Date:

America's Largest Manufacturer of Amusement Rides

Service Information

Effective Serial Numbers: ALL RIDES

Ride: ALL RIDES

Subject: OPERATOR SELECTION AND INSTRUCTION

The following is a list of General Guidelines for Operator Selection and instruction.

1. Select competent mature operators, capable of understanding the function and use of amusement rides and their control.

2. Instruct each operator fully in the proper use and function of the ride he is to supervise, including:
   A. Controls and procedures for normal and emergency operation.
   B. Manufacturer's recommended maximum speed and load.
   C. Manufacturer's recommended length of ride time and frequency of repeat rides.
   D. Any forseeable misuse of the ride as determined by the manufacturer or owner, or by special conditions such as weather, location or crowds.
   E. Each operator must have immediate availability of a manufacturer's operator's manual for the ride he supervises.

3. Require each operator to inspect the ride he supervises, each day of operation.
   A. Determine that no portion of the ride is damaged, omitted, or worn in such a manner that it is unsafe or that may develop into an unsafe condition.
   B. Report any irregularities to superintendent or owner.
   C. Do not operate irde if any irregularities are found until such condition is corrected.

4. Instruct the operator to allow no passenger to ride who is visably ill, or under the influence of drugs or alcohol.

5. Instruct operators and attendants on the proper methods of securing passengers in the ride. Do not allow a passenger in the ride that cannot be properly secured due to passenger size or malfunction of the securing device.
   A. Stop the ride immediately if any passenger is observed tampering with any restraining device or behaving dangerously, such as standing up.

6. Advise the operator against starting or operating the ride while any person (passenger, spectator, or employee), is in an endangered or unsafe position on the ride or within the ride area.

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7. Insist that each operator remain in full control of the operating controls during operation of the ride, and give his full attention to the ride and its passengers.

8. Instruct operator to allow no other person, other than another trained operator, to operate the controls of the ride, excepting portions of the ride that are designed to be controlled by the passenger.

9. Instruct operator and attendants fully as to the proper method of assembly and disassembly of portable rides and supply adequate personnel and equipment to do it safely.
   A. Restrict spectators from the area.

10. Instruct operator to inspect and correct or replace damaged, lost or worn parts that are unsafe or that may develop into unsafe parts simultaneously with assembly or disassembly.

11. Advise operator that factory-installed safety devices are not to be tampered with or removed.

12. Advise operator of owner/supervisor procedure for assisting ill or injured passengers.

13. Instruct operators and attendants that patrons are required to secure all articles, such as keys, change, eye glasses, etc., which may become loose while riding.

CHANCE MANUFACTURING CO., INC.

America's Largest Manufacturer of Amusement Rides

Number: 90-150
Date: 2-14-78

Supersedes:
Number:
Date:

Service Information

Effective Serial Numbers: ALL RIDES

Ride: ALL RIDES **Subject:** PREVENTATIVE MAINTENANCE

The following is a list of a few general selected rules which should be adhered to by everyone.

Remember that in the long run the key to a Safe and Successful Operation is to have well-trained and well-supervised employees.

GENERAL SAFETY GUIDELINES

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

2. Inspect ride, each day of operation, to determine that no portion of the ride is damaged, omitted or worn in such a manner that it is unsafe, or that unsafe conditions may develop.

3. Perform manufacturers recommended maintenance procedures at intervals and in manner specified by operation and maintenance manual, in the following general areas:
   - A. Lubrication
   - B. Air, Hydraulic and Electrical Systems
   - C. Torquing of Bolts
   - D. Wear of Bolted or Pinned Joints
   - E. Adjustment and Care of Mechanical Components such as Brakes, Clutches, and Air Compressors
   - F. Passenger Securing Devices
   - G. Crowd Control Devices
   - H. Operating and Emergency Controls
   - I. Factory Installed Safety Devices.

4. Study each job carefully to determine all hazards so that necessary safeguards can be taken.

5. Examine safety devices, tools, ladders, etc., before they are used to make sure they are in good conditon. Ladders should be clean and unpainted.

6. Use the proper tool or equipment for each job. Ground all hand electric power tools before use.

7. Wear close-fitting comfortable clothing when working on or close to mechanical apparatus or live electrical circuits. Avoid finger rings, jewelry or other articles which may be caught in moving parts or come in contact with electrical circuits.

8. Protect your eyes by wearing approved Safety Glasses or Goggles.

9. Wear hard hats at all times. When working in elevated areas, use a safety belt.

10. Where work to be performed is hazardous such as live electrical circuits, at least two men shall work together.

11. If guards must be removed from equipment, make sure they are replaced before leaving the job.

12. Clean up after each job disposing of surplus materials.

13. Keep a record of parts replaced and date of replacement. Inform manufacturer of any replacement requirements that are frequent or cause unsafe conditions.

14. Make modifications and additions as outlined in manufacturers service and safety bulletins.

PREVENTATIVE MAINTENANCE

Preventative maintenance is the best assurance for a successful operation. The ride operator should clean and inspect the ride daily. Lubrication should be performed at recommended intervals.

MAINTENANCE - FIRST TWO WEEKS OF OPERATION

The ride has been completely serviced and tested before leaving the factory. However, during the first two weeks of operation, the ride operator should be especially observant and watch for possible hydraulic leaks, etc. During the first two weeks, all bolts and nuts should be checked daily for tightness. After the first two weeks, they should be checked at least monthly.

HYDRAULIC FILTER

There is a hydraulic filter located in the return line going into the hydraulic reservoir. This filter has a replaceable filter element which should be changed after the first two weeks of operation. Thereafter, it should be changed at least semi-annually, and whenever the hydraulic fluid becomes contaminated for any reason. "Contamination" refers to any foreign matter such as dirt, sand, water, or other liquid other than the recommended hydraulic fluid.

CHANCE MANUFACTURING CO., INC.

America's Largest Manufacturer of Amusement Rides

Number: 90-151
Date: 2-14-78

Supersedes:
Number:
Date:

Service Information

Effective Serial Numbers: ALL RIDES

Ride: ALL RIDES

Subject: WEAR OF JOINTS

WEARING OF BOLTED OR PINNED JOINTS

Any bolted or pinned joint, whether designed to be stationary or moving, will be subject to stresses causing wear.

Wear will become evident on the fastener, walls of the hole or both. A certain amount of wear is expected and can be considered normal. It is impractical to specify the amount of wear or slop that should be tolerated on every joint. Therefore, the following general guidelines can be used as a guide only.

If in doubt about the condition of a bolt, pin or hole, consult Chance Manufacturing Company.

NEW RIDES

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 what is termed as "Point Contact". A joint with this condition will generally wear rapidly until the lead is distributed evenly over the fastener and the parts.

Once the joint has worn enough to have what is termed "Full Surface Contact" it should wear very slowly and evenly from then on.

If joint continues to wear rapidly, contact Chance Manufacturing Company.

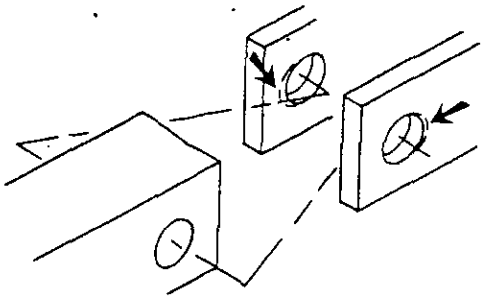
STATIONARY JOINTS (NO BEARINGS)

Generally encountered with Walkways, Stands, etc.

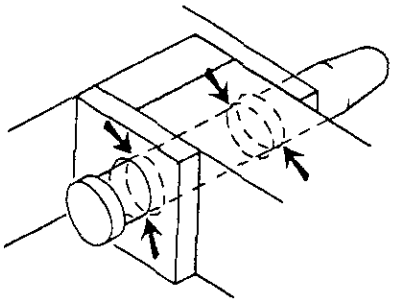
When holes become noticeably egg shaped or sloppy enough to wobble pin around, parts should be align drilled and oversize pins installed.

When using oversize pins, do not jump more than one size.

in doubt, consult Chance Manufacturing Company.



Stationary Joint Wear



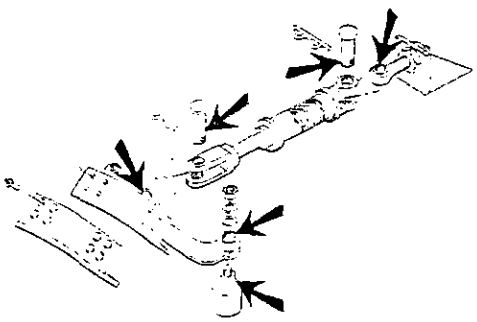
Stationary Joint-Misaligned Holes Resulting in Point Contact

MOVING JOINTS (BEARING OR BUSHING)

Any moving joint that has a bushing or bearing generally is involved with ride action.

Replace any worn parts as soon as detected.

Keep moving joints lubricated.

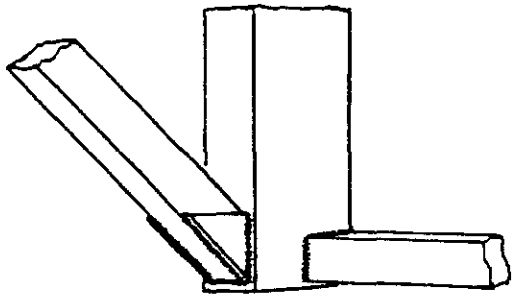


Moving Joints

WELDED JOINTS

Structural joints should be checked on a regular basis for visual signs of cracking or fatiguing. Joints that have gusset plates should be checked more frequently.

Consult factory if above conditions are present.



Welded Joints

CHANCE MANUFACTURING CO., INC.

America's Largest Manufacturer of Amusement Rides

Number: 90-152
Date: 2-14-78
Supercedes:
Number:
Date:

Service Information

Effective Serial Numbers: ALL RIDES

Ride: ALL RIDES USING CABLES **Subject:** CABLE INSPECTION

CABLE REPLACEMENT (NO LONGER SERVICEABLE)

The following guidelines will allow an economical and reasonable service life, while maintaining a high degree of safety as far as preventing damage to the ride or possible injury to the passengers.

Replace cables if any of the following conditions exist. If more than one cable is used, cables must be replaced as a set.

1. General evidence of severe corrosion.
   A. Rust appearing to stem from interior of cable.
   B. Cable appears clean at present but previous corrosion is evident from pitted condition of wires.

2. Severe stretching occurring in a short section of cable, indicated by a marked reduction in the diameter of the cable.

3. Severe physical damage such as "kinging", "crushing", or "bird caging".

4. One strand being 75% broken through.

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

"Lay" as a unit of measure

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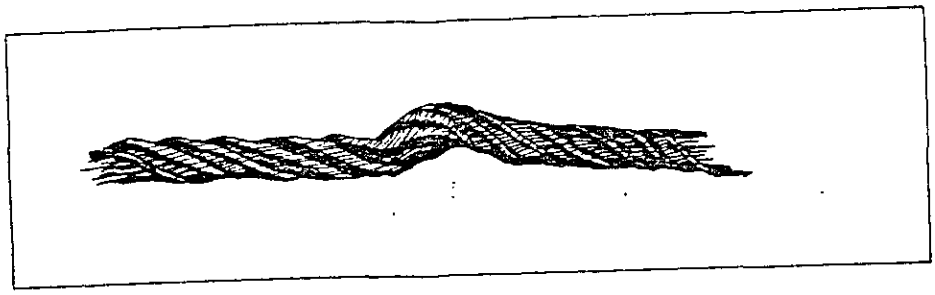
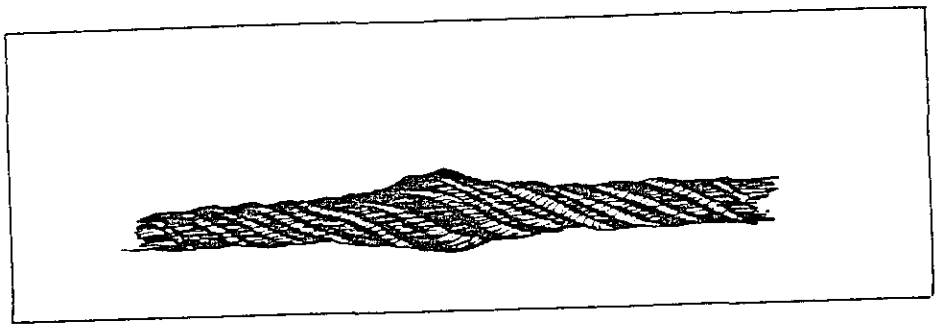
Sales Office:

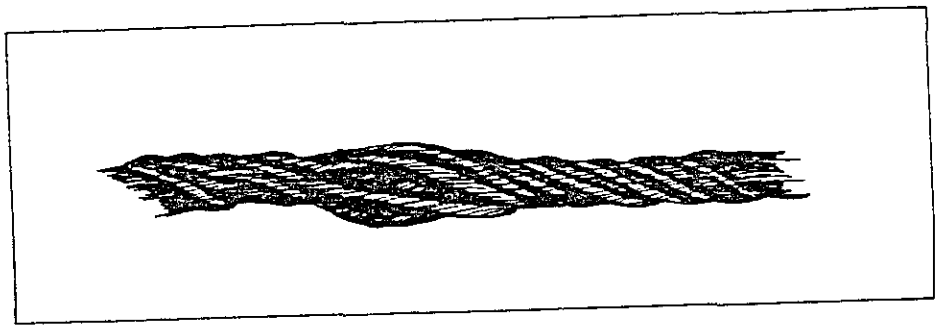
Cable Terms



Kinking



Crushing



Bird Caging

CHANCE MANUFACTURING CO., INC.

America's Largest Manufacturer of Amusement Rides

Number: 90-154
Date: 2-16-78

Supersedes:
Number:
Date:

Service Information

Effective Serial Numbers:

Ride: ALL RIDES

Subject: ARTIFICIAL RESUSCITATION

ALL RIDES

ARTIFICIAL RESUSCITATION

The Mouth-to-Mouth Method of Resuscitation should be known by everyone.

A few minutes practice from time to time, will master the technique, the knowledge of which may save a life.

QUICK action is imperative. Start resuscitation at once, even though many minutes have passed; the victim may still be alive.

(a) In electric shock, quickly shut off power or break contact with the victim by use of a dry stick or other non-metallic material (belt, clothing, rope, board). In asphyxiation from gas, move patient quickly to fresh air. Start resuscitation at once.

(b) Stop resuscitation procedure, turn your head to the side and listen for the return of air that indicates air exchange. Repeat the blowing effort at the rate of about 12 breaths per minute for adults and 20 per minute for children.

(c) When breathing is restored, keep patient quiet; do not let him walk. Keep him warm and move him on a stretcher.

(d) Should breathing stop, after being restored, start resuscitation again.

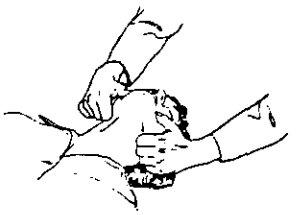
(e) Send for the nearest Doctor as soon as the accident is discovered.

The pictured "mouth-to-mouth" technique of artificial respiration has been approved unanimously by the National Academy of Sciences and the American Red Cross as the most practical method for emergency ventilation of an individual of any age.

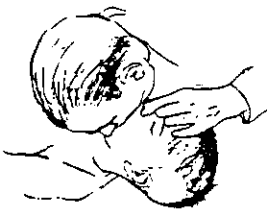
Factory and General Office, 4219 Irving, P.O. Box 12328 Wichita, Kansas 67277 Area Code (316) 942-7411

1. If there is foreign matter visible in the mouth, wipe it out quickly with your fingers.

2. Tilt the head back so the chin is pointing upward.



3. Pull or push the jaw into a jutting-out position.



4. Open your mouth wide and place it tightly over victim's mouth. At same time pinch victim's nostrils shut.

4A. Or close the nostrils with your cheek.

4B. Or close the victim's mouth and place your mouth over the nose.

5. Blow into the victim's mouth or nose. If you are not getting air exchange, recheck the head and jaw position (see drawings above).

6. If you still do not get air exchange, quickly turn the victim on his side and administer several sharp blows between the shoulder blades in the hope of dislodging foreign matter.

Resume breathing procedure.

CHANCE MANUFACTURING CO., INC.

Number: 90-153
Date: 2-20-78

Supersedes:
Number:
Date:

America's Largest Manufacturer of Amusement Rides

Service Information

Effective Serial Numbers: All Rides

Ride: All Rides

Subject: Tire Safety - Mounting & Demounting

The following guidelines and safety precautions are intended to be used for reference only. Procedures will vary for different types of rims and tire mounting equipment. If at any time an uncertainty exists about the method of assembly or component parts or use of equipment, consult specific equipment manual.

The following precautions apply generally for all types of tires. In addition, each section emphasizes specific precautions for each particular type of tire.

WARNING: FAILURE TO OBSERVE THE PRECAUTIONS OUTLINED IN THIS SECTION MAY RESULT IN FAULTY POSITIONING OF THE TIRE AND/OR RIM PARTS, CAUSING THE ASSEMBLY TO BURST WITH EXPLOSIVE FORCE SUFFICIENT TO CAUSE SERIOUS PHYSICAL INJURY OR DEATH.

CORRECT PROCEDURES
DO IT THIS WAY

1. Respect the potential power and explosive force of air under pressure. Serious accidents have resulted from lack of awareness of the explosive potential of compressed air. Respect it as you would DYNAMITE!

2. Make sure all tools are in good condition for use--not damaged, dented or deformed.

3. Remove valve core and exhaust all air from the tire (or tires, in the case of a dual assembly), before demounting. Probe the valve stem with a wire as a final check to make sure valve is not plugged. Do not stand in front of valve opening, as dirt particles may be blown into eyes.

4. Block vehicle in a positive manner so it cannot roll forward or backward after it is jacked up.

5. Place large hardwood blocks under the jack, regardless of how hard or firm the ground appears.

6. Place safety jacks--or crib up with blocks--at an appropriate spot under the vehicle, in case the jack slips.

7. Check rim diameter to be sure it exactly matches rim diameter molded on tire. If rim is multiple piece, check component parts to see if made by the same manufacturer.

8. Clean and inspect used rim parts thoroughly.

9. Use new tubes and new flaps in new tires.

10. Inspect inside of tire for loose cords, cuts, penetrating objects or other carcass damage. Scrap tires that are damaged beyond simple repair. Remove dirt, debris and liquids from inside of tire before tube is installed.

11. Lubricate with approved rubber lubricant, such as thin vegetable oil soap solution or "RUGLYDE".

12. Use a clip-on chuck and extension hose with remote control valve and pressure gauge, long enough to allow you to stand to one side--not in front of the assembly--during inflation.

13. Center tire properly on rim before inflating.

14. Securely lock wheel down, or place assembly in safety cage or portable safety device before attempting to inflate tire to seat beads.

15. Check for proper flange and lock ring seating.

16. Adjust air pressure to manufacturer's recommended cold operating pressure, after beads have been seated.

17. Inspect valve cores for proper air retention. Replace damaged or leaky cores.

FAULTY PROCEDURES
DO NOT DO IT THIS WAY

1. Don't work on tire and rim assemblies until you have reviewed safety practices and procedures.

2. Don't loosen lug nuts on duals until all air is exhausted from both tires. A broken or cracked rim part under pressure could blow apart and seriously injure or kill if lugs are removed before air is exhausted.

3. Don't ever apply heat or do repair work on an inflated tire, rim and wheel assembly. Heat can increase air pressure to a level sufficient to burst the tire or rim.

4. Don't reinflate a tire that has been run flat or seriously underinflated without demounting that tire and checking the tire and tube for damage.

5. Don't mix rim parts of different manufacturers unless such use is approved by those manufacturers.

6. Don't attempt, under any circumstances, to rework, weld, heat or braze rim parts. Replace damaged parts with same size, type and make.

7. Don't reuse tubes or flaps that have buckled or creased.

8. Don't use a tube in a tire larger or smaller than that for which the tube was designed.

9. Don't inflate beyond recommended bead seating pressure. Don't stand over tire when inflating.

10. Don't transport fully inflated tires mounted on multi-piece rims. Inflate only enough (10-15 PSI) to keep rim parts in place. Inflate tires to correct operating pressure only after tire and rim assembly have been fastened in place, all lug nuts properly torqued, and rim parts rechecked for proper fit.

11. Do not substitute petroleum-based lubricants, silicone or anti-freeze for "RUGLYDE" or other approved rubber lubricant.

PASSENGER CAR-TYPE TIRES

1. Machine Method

A. Demounting - After tire is removed from vehicle, remove all balance weights. Remove valve core to deflate tire.

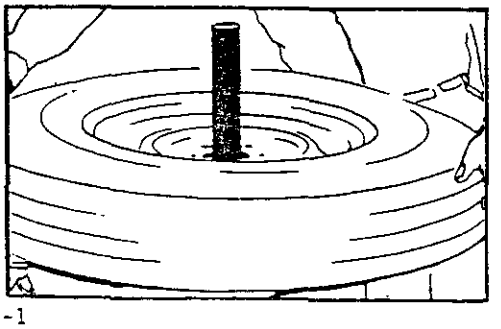


Fig. 1-1

Place tire and wheel assembly on tire changer, narrow ledge up (Fig. 1-1), and make sure stub on changer fits into one of the bolt holes of the wheel.

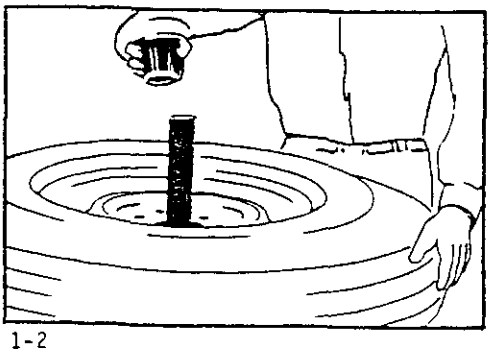


Fig. 1-2

Fasten wheel securely onto changer with hold-down device (usually a threaded cone) (Fig. 1-2). Loosen tire beads from rim flange using bead unseating tool. If beads do not separate readily, tire assembly should be loosened, tire and wheel rotated, hold-down mechanism retightened, and unseating tool tried at another point on tire to free beads from rim.

After beads are loosened, use brush or swab to lubricate with RuGlyde or other approved rubber lubricant. NEVER use anti-freeze, silicone or petroleum-based lubricants.

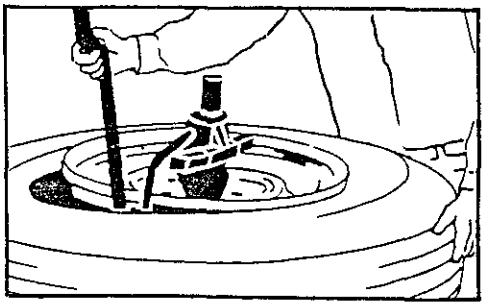


Fig. 1-3

Push top bead into rim well at one point, and at a point 180° opposite use a tire iron to lift bead over rim flange onto rotating finger of tire changer (Fig. 1-3). Holding tire iron in position, engage changer, and rotating finger will lift bead over rim flange. If tire is tube-type, the tube should now be removed.

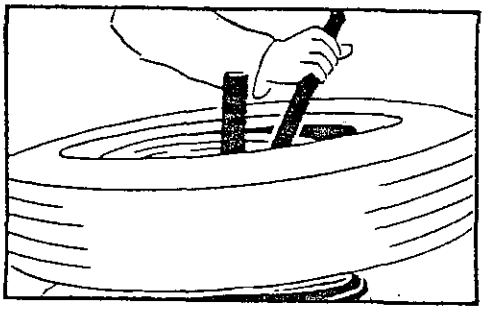


Fig. 1-4

Tilt tire and push bottom bead into rim well. Again use tire iron to lift bottom bead over rotating finger of tire changer (Fig. 1-4). Again holding tire iron in position, engage changer, and rotating finger will lift bead over rim flange.

B. Mounting

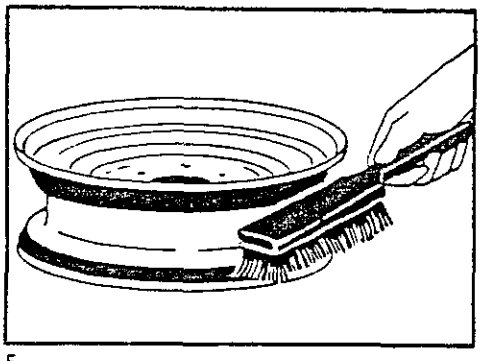


Fig. 1-5

The rim should be inspected for any damage or abuse. If it has been repair-welded or brazed, the rim should be discarded. Make sure the rim area is clean and free of rust, corrosion and debris. The entire area of rim and shoulder well should be wirebrushed (Fig. 1-5).

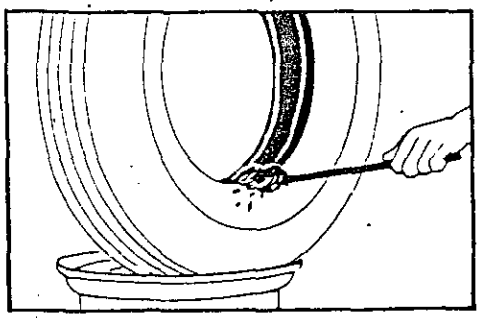


Fig. 1-6

Place wheel on tire changer, narrow ledge up, and fasten securely with hold-down device. Inspect snap-in valve and replace if it shows signs of cracking, checking or deterioration. Before seating new valve, it should be lubricated with RuGlyde or other approved lubricant to insure its being seated firmly against the rim surface.

The casing should be inspected prior to mounting and any debris removed from inside of tire. Use brush or swab to lubricate both beads of the tire with RuGlyde or other approved rubber lubricant (Fig. 1-6). Before placing tire over wheel, also lubricate both rim flanges and bead ledges.

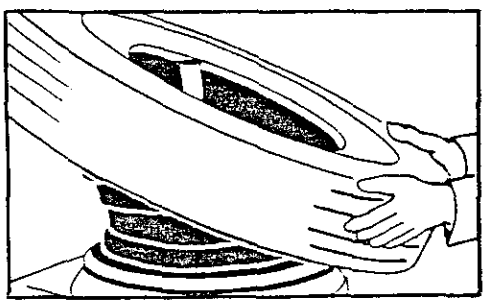


Fig. 1-7

Push bottom bead into rim well and hold it there with your hip or hand. Engage changer while holding tire in this position. Rotating finger will push bead over rim flange (Fig. 1-7). At this point, if tire is tube-type, the tube should be inserted into the tire. Tube should be partially inflated to a limp, round shape, valve inserted into valve hole, and tube stuffed into tire. DO NOT PERMIT TUBE TO BULGE OUT BEYOND BEADS.

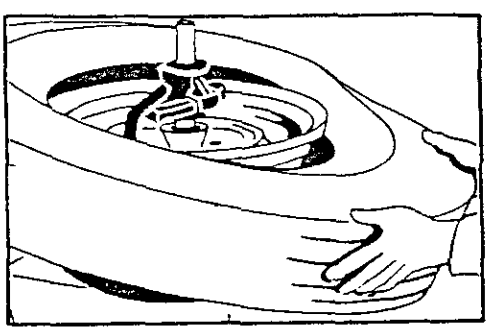


Fig. 1-8

Push top bead of tire into rim well by tilting tire (Fig. 1-8), and engage changer while holding tire in this position. Rotating finger will then push bead over rim flange.

Be sure hold-down device is securely locked in place. Insert valve core and clip-on extension hose with remote control valve and pressure gauge. Carefully center tire in horizontal position, stand back from tire, and inflate to seat beads (Fig.

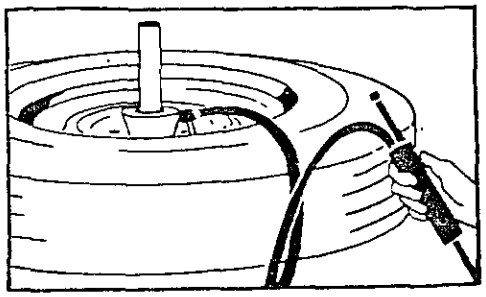


Fig. 1-9

UNDER NO CIRCUMSTANCES SHOULD 40 PSI BE EXCEEDED. If beads still do not seat at 40 PSI, tire should be completely deflated, beads relubricated, tire rotated 90° and recentered in horizontal position, and inflation procedure repeated.

If tire is mounted on a machine that does not have a positive lock-down device to hold the wheel, inflation should be done in a safety cage.

After seating beads, adjust inflation to auto manufacturer's recommended operating pressure and install valve cap.

2. Hand Tool Method

Demounting -

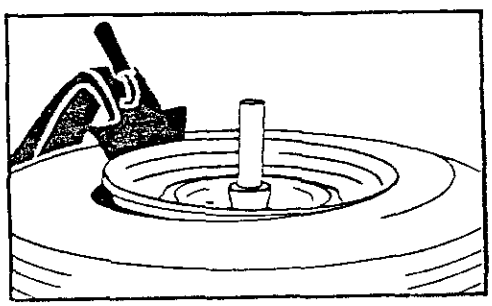


Fig. 1-10

Remove valve core and completely deflate tire. If tire beads cannot be unseated from rim by foot pressure, use any commercial-type bead unseating tool (Fig. 1-10). Do not use hammer or tire irons to loosen beads. Do not damage the beads. After beads are loosened, use brush or swab to lubricate with RuGlyde or other approved lubricant. NEVER use anti-freeze, silicone or petroleum-based lubricants.

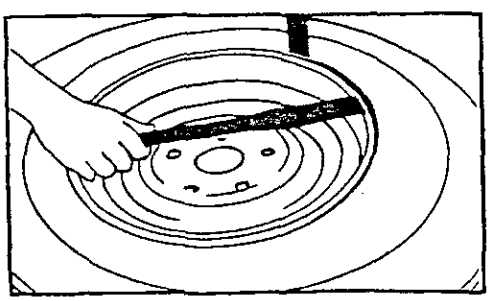


Fig. 1-11

Use clean, smooth tire irons. With narrow rim ledge up, force the top bead into the well 180° opposite the valve. Start removal of the top bead at the valve. Carefully insert one tire iron between the tire bead and rim flange and then pry bead wards over the flange with the second iron (Fig. 1-11). Taking small "bites" carefully work around the rim, prying the bead over the rim flange until bead is completely removed from rim. If tire is tube-type, the tube should now be removed.

Turn tire over and use two irons, one between rim flange and tire bead to pry rim upward and the other iron to pry outward between bead seat and tire bead. Start removal at valve to eliminate any possibility of bead catching on valve base (Fig. 1-12). A soft-faced hammer may be substituted for one tire iron in this operation.

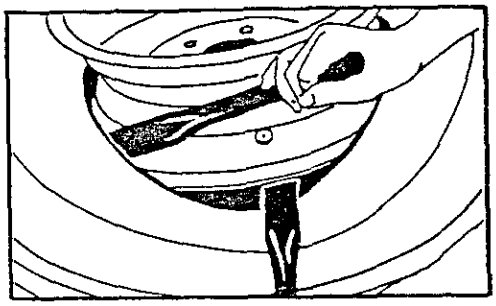


Fig. 1-12

B. Mounting - Prepare the tire and rim for mounting the same as in machine method above. (Figs. 1-5, 1-6).

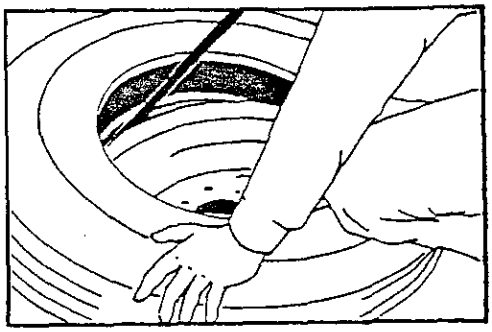


Fig. 1-13

Place rim on floor with narrow ledge up. Force bottom bead of tire into well and hold with knee. Taking small "bites" with the tire irons, carefully pry the bead over the rim flange until bottom bead is on the rim. (Fig. 1-13). At this point, if tire is tube-type, the tube should be inserted as described in Fig. 1-7.

Mount the top bead in the same manner as the bottom bead. Apply portion of bead nearest valve last. A soft-faced hammer may be substituted for one tire iron in this operation. (Fig. 1-14)

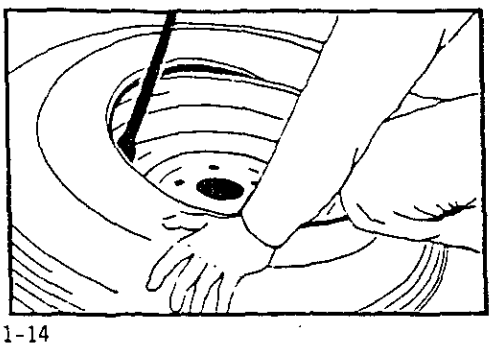


Fig. 1-14

Insert valve core and clip-on extension hose with remote control valve and pressure gauge. Place tire in safety cage or portable safety device, being careful to center tire in a horizontal position.

Stand back from tire, and inflate to seat beads. If beads do not seat at 30 PSI, slowly go to 40 PSI. UNDER NO CIRCUMSTANCES SHOULD 40 PSI BE EXCEEDED. If beads still do not seat at 40 PSI, tire should be completely deflated, beads relubricated, tire rotated 90° and recented in horizontal position, and inflation procedure repeated.

After seating beads, adjust inflation to auto manufacturer's recommended operating pressure and install valve cap.

TRUCK TIRES
TUBE-TYPE

There are so many different types of nulti-piece truck tire rim assemblies that it is impossible to cover all types in this manual. This manual contains only general examples, with particular emphasis on safety. For specific procedures for each type of rim, reference must be made to the rim manufacturer's instructions for the assembly of the various parts.

1. Demounting

IMPORTANT SAFETY PRECAUTION

Before removing tire and rim assembly from vehicle, the tire must be completely deflated. If dualed, both tires must be deflated before mounting bolts are loosened.

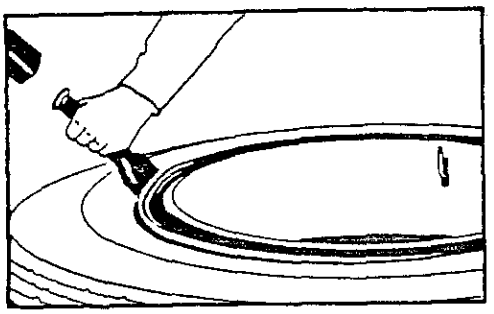


Fig. 2-1

Remove tire and rim assembly from truck and lay on floor with loose ring flange up. Drive wedges around tire between rim and top bead to unseat bead from rim flange. Continue this procedure until bead is free from side ring. (Fig. 2-1).

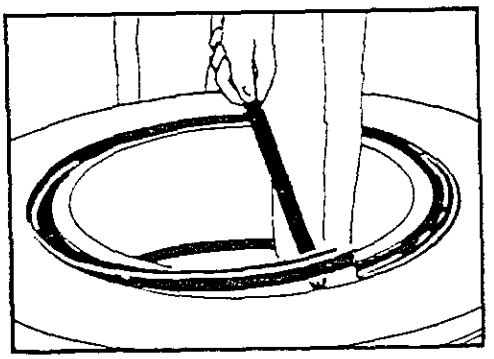


Fig. 2-2

Insert tapered end of tire iron into prying notch of lock ring near split in ring, and pry lock ring free from the gutter groove in which it lies (Fig. 2-2). Remove loose side flange.

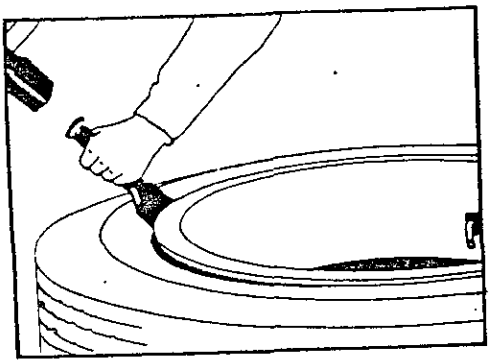


Fig. 2-3

Turn assembly over, lay face down on floor and unseat remaining bead from rim in same manner, using wedges. (Fig. 2-3)

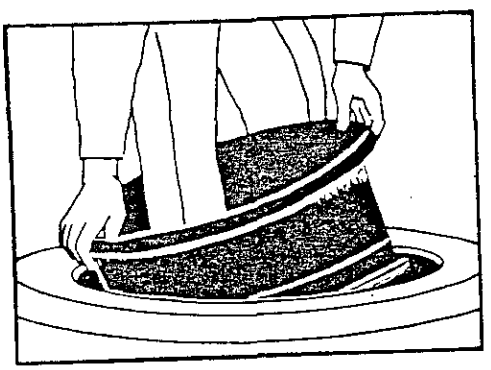


Fig. 2-4

Lift rim from tire (Fig. 2-4). Remove flap and tube.

2. Mounting

IMPORTANT SAFETY PRECAUTIONS
FOR ALL TYPES OF TRUCK RIMS

Use only MATCHED rim parts as specified by manufacturer's handbooks. NEVER MIX RIM PARTS of different manufacturers unless such mixing is approved by those manufacturers' handbooks. Tire, tube, flap and rim parts should be checked carefully for signs of abuse, repairs, scale, rust or corrosion. All parts MUST be in good condition. Discard all parts that are cracked, welded or damaged. Clean all metal parts thoroughly by wire-brushing. The inside of the casing must be free of debris, liquid and foreign material. Always use a new tube in a new tire.

GENERAL PROCEDURE FOR MULTI-PIECE RIMS*

*NOTE: Consult rim manufacturer's manuals for detailed instructions on assembly of specific multi-piece rim types.

Insert tube and flap into casing, positioning valve stem at red mark on tire. Partially inflate tube to a limp round shape. Apply RuGlyde or other approved rubber lubricant to both beads and the area of flap that lies between the beads.

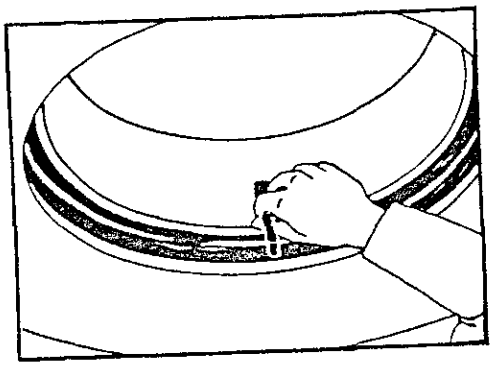


Fig. 2-5

Lay rim base flat on floor with valve slot up. Place tire on rim and insert valve through valve slot (Fig. 2-5).

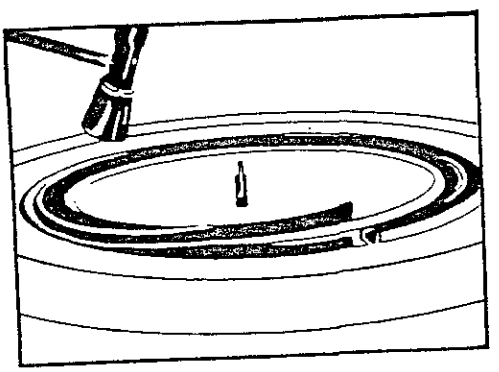


Fig. 2-6

Place loose side flange on rim base. Place leading end of lock ring into gutter groove of rim base. Using soft faced mallet, progressively "tap" lock ring into place (Fig. 2-6). CHECK RING TO INSURE THAT IT IS FULLY AND PROPERLY SEATED IN GROOVE.

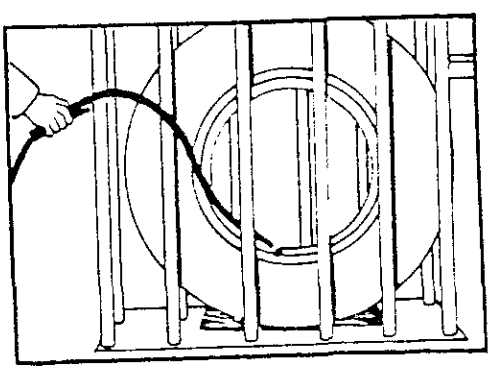


Fig. 2-7

Place assembly in safety cage and attach clip-on chuck with extension hose, remote control valve and pressure gauge. Inflate to 10 PSI. Check ring for proper seating by tapping it with a mallet (Fig. 2-7). Completely deflate tire, then reinflate to recommended PSI before removal from safety cage.

TRUCK TIRES
TUBELESS

1. Demounting and Mounting - 5° Drop Center Rims

For 5° drop center rims for light truck tires, follow the same procedure as described for passenger tires in Section 1.

CAUTION: Never use rubber snap-in valves if required operating pressure exceeds 50 PSI.

2. Demounting - 15° Drop Center Rims

IMPORTANT SAFETY PRECAUTION

Before removing tire and rim assembly from vehicle, the tire must be completely deflated. If dualed, both tires must be deflated before the mounting bolts are loosened.

Remove tire and rim assembly from truck and unseat beads using a bead unseating tool.

After beads are loosened, use brush or swab to lubricate beads with RuGlyde or other approved lubricant. NEVER use anti-freeze, silicone or petroleum-based lubricants.

Place rim flat on floor, wide side down, and force the top bead into the well 180° opposite the valve. Start removal of the top bead at the valve. Carefully insert one tire iron between the bead and rim flange and then pry bead upwards over the flange with the second iron. Taking small "bites," carefully work around the rim, prying the bead over the rim flange until completely removed from rim. (Fig. 2-8)

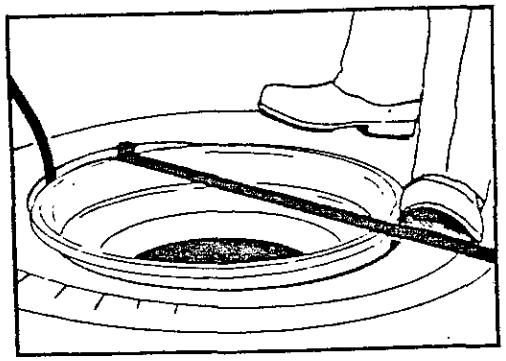


Fig. 2-8

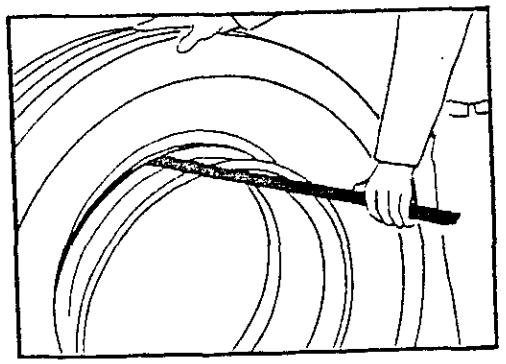


Fig. 2-9

Stand tire and rim in vertical position with valve on top. Insert tire tool over second flange between rim and bead. Lean tire toward you and rock bead over rim flange (Fig. 2-9). Tire is then completely demounted.

3. Mounting - 15° Drop Center Rims

Examine rim for visible problem areas such as dents, rust, welds, etc. If rim is rusty, it should be replaced. Inside of casing should also be inspected prior to mounting, to insure removal of dirt and debris and to prevent the mounting of injured tires.

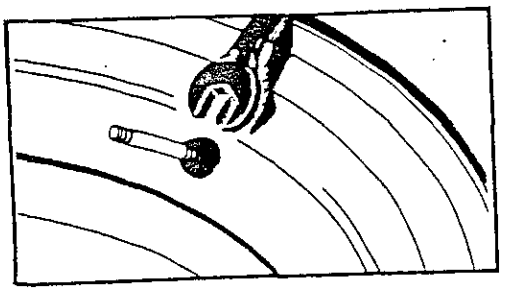


Fig. 2-10

Place valve stem with rubber washer through valve hole from rim well side (Fig. 2-10). Screw on valve nut from opposite side, and make sure bushing and metal collar or nut are centered and fit snugly into valve hole. Tighten nut with wrench.

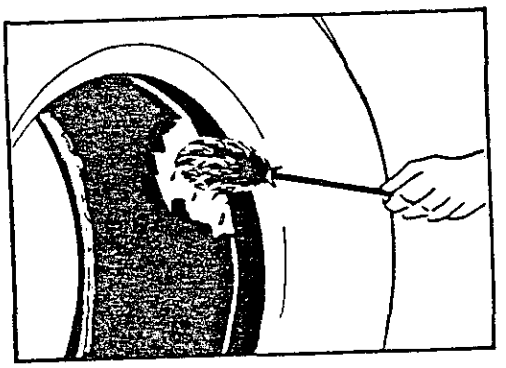


Fig. 2-11

Place rim on floor, wide side down, and lubricate both bead seats of rim and tire beads (Fig. 2-11).

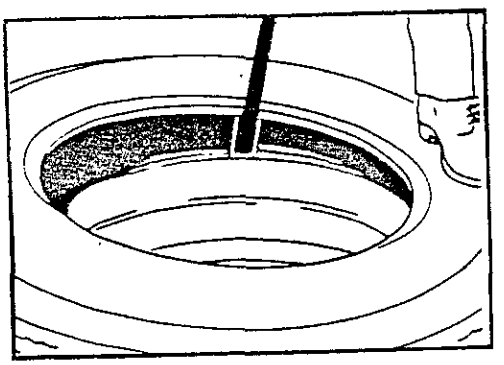


Fig. 2-12

Lay casing over rim, and push bottom bead over flange and into rim well (Fig. 2-12). Taking small "bites" with tire irons, carefully work circumference of bead into remainder of rim well.

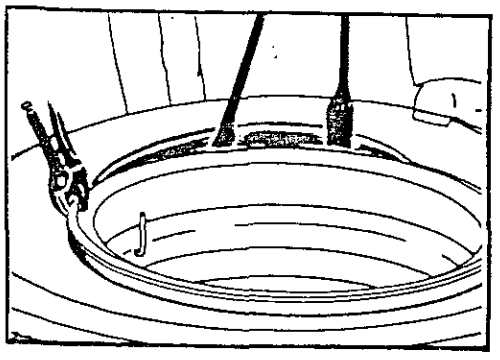


Fig. 2-13

Start top bead into rim well. Insert tire irons between bead and rim flange, and force bead into rim well by shifting one iron in small "bites" around perimeter of rim flange (Fig. 2-13).

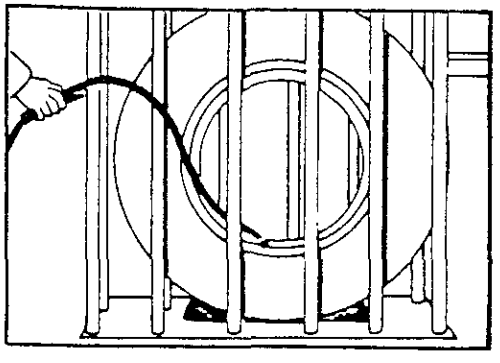


Fig. 2-14

Place tire and rim in safety cage. Attach clip-on chuck with extension hose, remote control valve and pressure gauge. Inflate tire to seat beads (Fig. 2-14). NEVER ALLOW PRESSURE TO EXCEED 40 PSI during bead seating operation. If beads do not seat, tire must be deflated, repositioned, relubricated and reinflated.

SMALL INDUSTRIAL TIRES
SPLIT-RIMS

A. Demounting - Remove tire from installation and deflate by removing valve core.

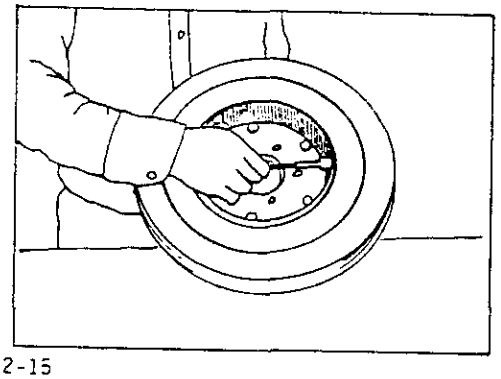


Fig. 2-15

Make sure all air is exhausted by probing valve stem with a wire, etc., to make sure it is not clogged by dirt (Fig. 2-15).

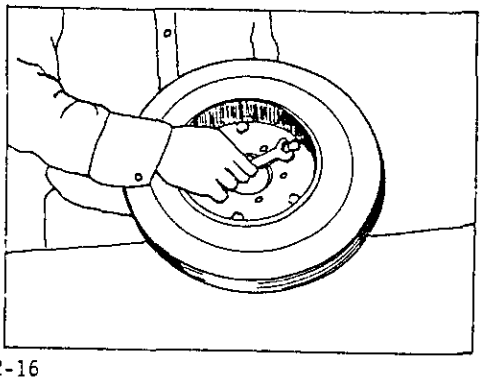


Fig. 2-16

Loosen and remove nuts and bolts securing wheel halves together (Fig. 2-16).

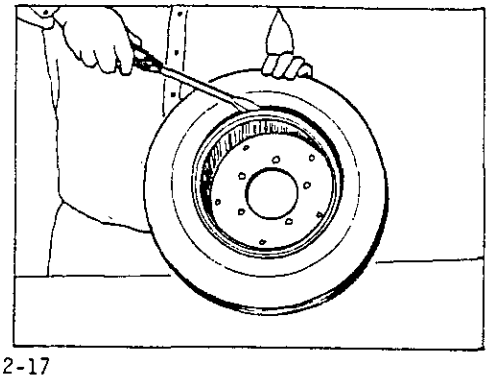


Fig. 2-17

Separate wheel halves, using care not to damage tire bead or tube (Fig. 2-17).

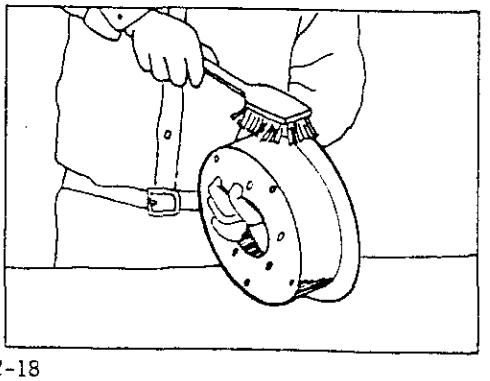


Fig. 2-18

Inspect all pieces and clean rim halves with a wire brush (Fig. 2-18).

Repair or replace tire or tube.

B. Mounting - Inspect inside of tire and remove any debris.

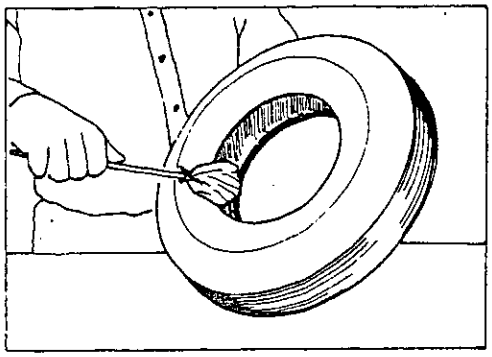


Fig. 2-19

Lubricate both beads of tire with "RUGLYDE" or other approved lubricant (Fig. 2-19). Install tire on rim half which has hole for valve stem. Insert tube into tire and align valve stem in hole in rim. Tube should be partially inflated to a limp, round shape to prevent being pinched between rim halves. Inspect bolts and nuts, disregarding any that are rusted, corroded or damaged, and discard any that are not at least a Grade 5 bolt. Install remaining rim half with bolts and nuts and torque per chart.

Inflate tire to recommended pressure and check valve stem for leaks.

Number: 90-148C-00

Date: 5/1/85

Supersedes: 90-148B
90-148A
90-148
57

America's Largest Manufacturer of Amusement Rides

SERVICE BULLETIN

Effective Serial Numbers: ALL PRODUCTS

Ride: ALL PRODUCTS

Subject: REPLACEMENT AND TORQUE REQUIREMENT FOR FUNCTIONAL LOAD CARRYING CAP-SCREWS

SERVICE BULLETIN NUMBERS 57, 90-148, 90-148A, and 90-148B ARE SUPERSEDED BY THIS BULLETIN. THEY ARE NO LONGER IN EFFECT, AND ALL COPIES SHOULD BE DESTROYED.

ADDITIONALLY, THIS BULLETIN SUPERSEDES ALL INFORMATION PREVIOUSLY PUBLISHED BY CHANCE MANUFACTURING.

Capscrews used by CHANCE MANUFACTURING are classified as functional load carrying capscrews if:

-They are used as tension members in the erection or operation of a ride

and/or

-They are required to resist shear through friction-type connections in the erection or operation of a ride

Capscrews are selected with consideration to grade, size and quantity, using joint capacities based on tightness torques of 60% of rated yield and group joint efficiency of 62.5%.

Torque Requirements

Capscrews must be tightened to the torque values listed in the Torque Chart. These values were selected to produce a tightening torque range of 60% to 70% of proof load, when tightened with a hardened washer under the locknut or capscrew head (whichever is accessible for tightening). When the capscrew is tightened from the head end, apply anti-seize lubricant to

he shank of the capscrew. When the threads are lubricated, use 10% less torque to tighten the capscrew.

DO NOT TIGHTEN CAPSCREWS OVER THE RECOMMENDED TORQUE. This can damage the capscrew, due to variances in coefficients of friction and torque wrench accuracy.

Always use a torque wrench. It is impossible to accurately measure the tightness of a capscrew by other methods. Torque wrenches must be checked for accuracy twice each operating season.

Capscrew Grades

CHANCE MANUFACTURING 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 manufacturers identification symbols must be present on all functional load carrying capscrews.

CHANCE MANUFACTURING recommends the use of cold-formed hex head capscrews with rolled threads. Hex bolts and hot-formed hex head capscrews are not recommended because they may have machined threads, and can have die seams along the shank.

NEVER REPLACE CAPSCREWS OR LOCKNUTS WITH PARTS OF A LESSER GRADE, OR OF DIFFERENT LENGTHS THAN THOSE SHOWN IN THE CHANCE PARTS CATALOG.

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. Corrosion or other damage can require over-torquing for removal, and therefore make replacement necessary. 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.

NUMBER: B090R1002-0

DATE: May 14, 1986

SUPERSEDES:

SERVICE BULLETIN

Effective Serial Number:

Ride: ALL RIDES

Subject: Field Performance Testing of Amusement Rides

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

1. 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 set-up procedures included 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 ride to determine that direction of travel conforms to the information plate, ride manual, field inspection guide or 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 or specification sheet.

2. Daily Pre-Opening Inspection: This inspection shall include a daily inspection of all items as specified in the previous Section 1. Erection or Installation Testing.

3. Documented Field Performance and Operational Testing: Documentation and certification shall be performed by a person who by demonstrated education and field experience is knowledgeable with the construction, erection, operation, maintenance and repair of amusement rides.

4. Operational Load Testing: Any operational test including load testing performed on a ride shall be oompletely nondestructive in nature. Overload testing exceeding the rated limits listed on the information plate, operation manual, field inspection guide or specifications sheet shall be deemed inappropriate. Where maximum total passenger weight is not readily available passenger capacity multiplied by 170 pounds per adult and/or 90 pounds per child may be used.

Nondestructive testing with inert loads can be accomplished only with special care as to placement of the load so that it is centered both vertically and horizontally as would be the load of the passenger it replaces. Extra seat reinforcement must be used to offset any load concentration created. Such tests shall be documented and certified as nondestruative by the person making the test and the agency requiring it. Results of all load tests shall be communicated to the factory upon completion by the Certifying Agency.

Conducting a nondestructive operational load test assures the testing agency only that it will carry a given load in a given way at a given moment and in no way assures future safety of the ride.

Conducting a destructive load or overload test also assures the testing agency that it will carry a given load in a given way at a given moment and in no way assures future safety of the ride. However, it also introduces the probability of inflicting serious irreparable damage to the ride that may or may not be apparent at the time of the test.

We consider inert load testing of any nature appropriate only for situations requiring experimental development of stress-strain testing during prototype development. A certificate of load test on the prototype and certification that each production ride met the design criteria when it was manufactured is available from the factory upon request.

NUMBER: B090R1022-0

DATE: March 21, 1988

SUPERSEDES:

SERVICE BULLETIN

Effective Serial Number:

Ride: ALL

Subject: NON-DESTRUCTIVE TESTING

REFERENCE STANDARD:

1. ASTM-F24 Standards on Amusement Rides and Devices
   a. F846-86 Testing Performance of Amusement Rides and Devices
   b. F853-86 Maintenance Procedures for Amusement Rides and Devices
   c. F893-87 Inspection of Amusement Rides and Devices

Chance Rides 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 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 will notify owners by bulletin of the recommended procedures to inspect or 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 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, replacement or otherwise have been completed and are in compliance with the required specifications.

Load testing is a destructive form of testing and is not recommended by the manufacturer as per our bulletin #B090R1002-0 dated May 14, 1986.

Number: B090R1049-0

Date: Sept. 15, 1989

SERVICE BULLETIN

Effective Serial Number: All Units

Ride: ALL RIDES

Subject: Crowd Controls

Safety is a combined responsibility and effort of the ride manufacturer and the owner/operator. In conjunction with the safety features provided by the manufacturer, the following safety precautions must be observed by the owner/operator.

1. Inspect all entrance and exit constraints for installation and operation as per the manufacturer's specifications.

2. Inspect all entrances and exits for proper installation as per the manufacturer's specifications.

3. Affix safety warning signs and/or decals at all exits and/or entrances to warn persons of hazards. Size and color of signs and/or decals should be such that all wording is easily read.

4. Each ride should be staffed with an adequate number of trained personnel to maintain a safe operation.

5. All operators should be instructed on ride safety and the importance of crowd control around the ride. The safety items should include, but not be limited to, the following:

    a. Securing of fencing to prevent persons from entering a hazardous or secured area.
    b. Preventing persons from hanging over or sitting on the fence in a hazardous or secured area.
    c. Be particularly observant of small children.
    d. Be thoroughly instructed as to the function of all operating controls, and all emergency procedures.
    e. All ride personnel must stay clear of hazardous areas until the ride has come to a complete stop. These hazards include, but are not limited to, moving components of the ride.
    f. The ride personnel must be aware of the entrance and exit areas at all times, and must not allow persons to enter these areas while the ride is in motion, nor shall ride personnel allow persons to enter other hazardous or secured areas.

6. Persons obviously intoxicated or under the influence of drugs must not be allowed access to the ride.

7. All inspection and 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 THE MANUFACTURER. IF ANY ALTERATIONS AND/OR MODIFICATIONS OR ADDITIONS AND INSTALLATION 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.

NUMBER: B090R1056-0

DATE: Feb. 9, 1990

SUPERSEDES:

SERVICE BULLETIN

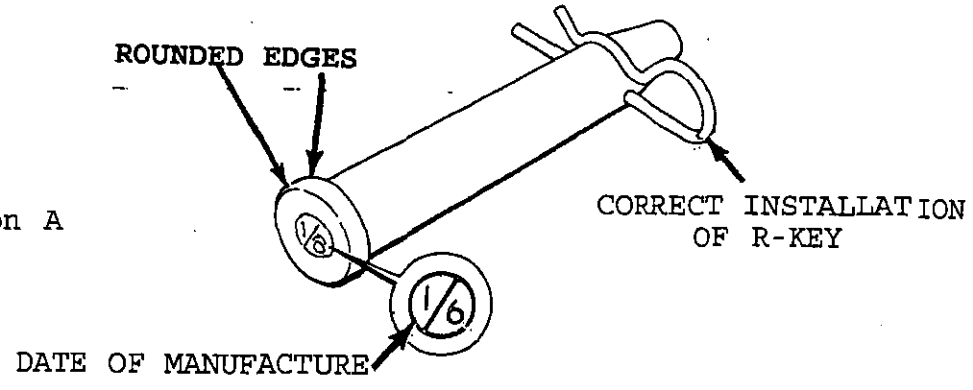
Effective Serial Number: All Units

Ride: All Rides

Subject:General Safety - Taper Pins

It has come to the attention of Chance Rides, Inc. that the taper pins being used with amusement rides are subject to deterioration due to improper use and wear. Chance Rides, Inc. specifies certain pins for certain applications on amusement rides. These pins have been developed over a period of years, taking into account size, design, material and hardness characteristics. Only pins specified by Chance Rides, Inc. may be used on rides manufactured by Chance Rides, Inc. These pins are identified as shown in Illustration A.

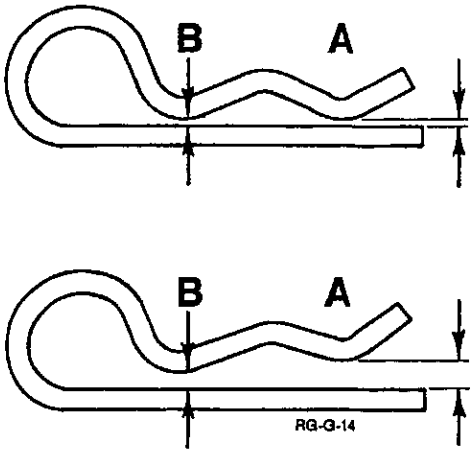
Illustration A



Care should be taken when installing and removing taper pins. Since these pins are hardened (as are hammers and punches) care must be taken to strike the pin straight on. Striking a pin at an angle could cause the pin to chip resulting in bodily injury. For this reason APPROVED SAFETY GLASSES OR GOGGLES MUST BE WORN AT ALL TIMES when taper pins are being installed or removed. Any taper pin which is chipped, bent, or mushroomed on either end must be discarded and replaced with a new pin.

All keepers (R-keys, hair pins, lynch pins, etc.) must be inspected for wear. If a keeper is bent out of shape or "sprung", as shown in Illustration B, it must be replaced.

Illustration B



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.

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.

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 THE MANUFACTURER. IF ANY ALTERATIONS AND/OR MODIFICATIONS ARE MADE TO THE ORIGINAL DESIGN WITHOUT THE MANUFACTURER'S EXPLICIT WRITTEN CONSENT OR WITHOUT DIRECT SUPERVISION BY A MANUFACTURER'S REPRESENTATIVE. CHANCE RIDES MAKES NO CLAIM AS TO THE INTEGRITY OF THE ALTERED OR MODIFIED RIDE.

NUMBER: B090R1071-0

DATE: MAY 16, 1990

SUPERSEDES: 90-152

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: All Rides Using Cables Subject: Cable Inspection

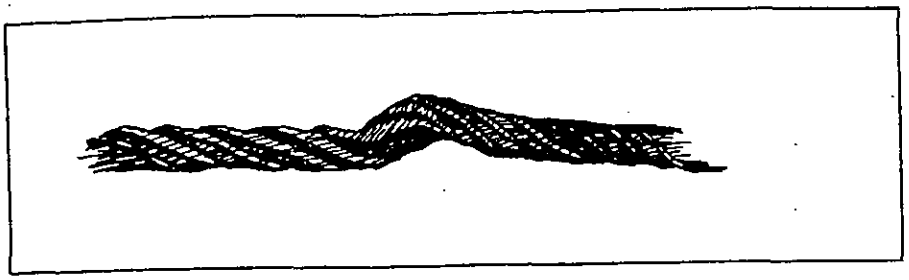
Chance Rides, Inc. requires all owners of amusement rides produced by Chance Rides, Inc. which utilizes cables (wire rope) to inspect these cables weekly or at each set up, which ever occurs first. If cables are used to drive the equipment, or as the main support of the wright, they must be replaced if any of the following conditions exist. If cables are used in pairs, they must be replaced at the same time.

1. General evidence of severe corrosion.
   A. Rust appearing to stem from interior of cable
   B. Cable appears clean at present but previous corrosion is evident from pitted condition of wires.
2. Severe stretching occurring in a short section of cable, indicated by a marked reduction in the diameter of the cable.
3. Severe physical damage such as "kinking", "crushing", or "bird caging".
4. One strand being 75% broken through.
5. A number of wires, equal to the number in a strand, being broken in the length of one rope lay.

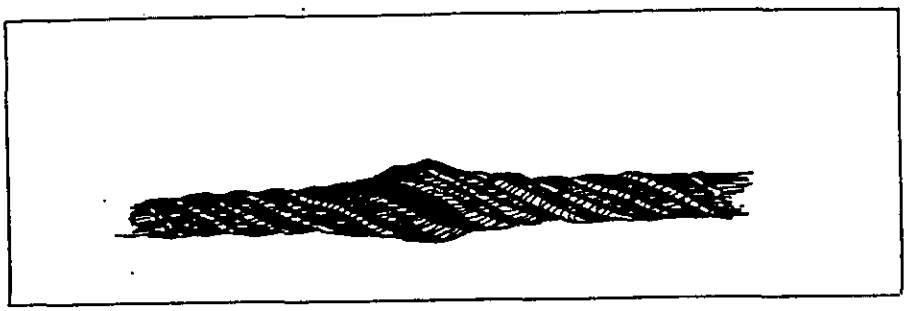
"Lay" as a unit of measure

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

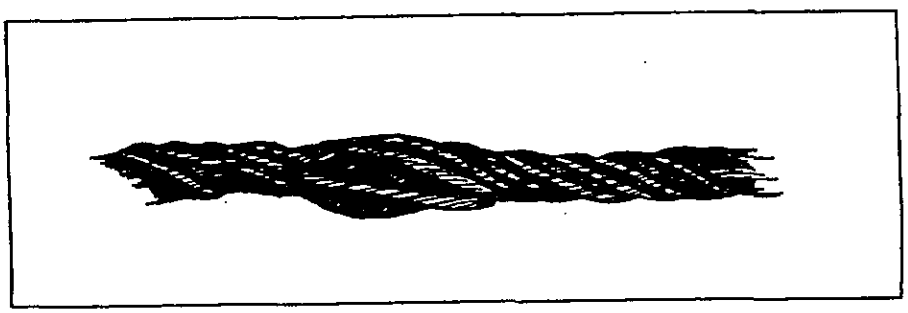
Cable Terms



Kinking



Crushing



Bird Caging

NUMBER: B090R1075-0

DATE: MAY 25, 1990

SUPERSEDES: 90-148C-00

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: All Rides

Subject: Replacement and torque requirements for functional load carrying capscrews

Capscrews used by CHANCE RIDES, INC. are classified as functional load carrying capscrews if:

- They are used as tension members in the erection or operation of a ride

  and/or

- They are required to resist shear through friction-type connections in the erection or operation of a ride

Capscrews are selected with consideration to grade, size and quantity, using joint capacities based on tightness torques of 60% of rated yield and group joint efficiency of 62.5%.

TORQUE REQUIREMENTS

Capscrews must be tightened to the torque values listed in the Torque Chart. These values were selected to produce a tightening torque range of 60% to 70% of proof load, when tightened with a hardened washer under the locknut or capscrew head (whichever is accessible for tightening). When the capscrew is tightened from the head end, apply anti-seize lubricant to the shank of the capscrew. When the threads are lubricated, use 10% less torque to tighten the capscrew.

DO NOT TIGHTEN CAPSCREWS OVER THE RECOMMENDED TORQUE. This can damage the capscrew, due to variances in coefficients of friction and torque wrench accuracy.

Always use a torque wrench. It is impossible to accurately measure the tightness of a capscrew by other methods. Torque wrenches must checked for accuracy twice each operating season.

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 manufacturers identification symbols must be present on all functional load carrying capscrews.

CHANCE RIDES, INC. requires the use of cold-formed hex head capscrews with rolled threads. Hex bolts and hot-formed hex head capscrews are not recommended because they may machined threads, and can have die seams along the shank.

NEVER REPLACE CAPSCREWS OR LOCKNUTS WITH PARTS OF A LESS **GRADE, OR OF DIFFERENT LENGTHS THAN THOSE SHOWN IN THE CHANCE PARTS CATALOG.**

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.

GRADE MARKINGS
For Functional Load Carrying Capscrews

Manufacturer's identification symbols must be present on all capscrews

Correct markings	Examples of unacceptable markings
SAE J429 Grade 5 Medium carbon 81,000 yield 	 Grade 5.1 Low carbon  Grade 5.2 Low carbon martensitic
ASTM A325 Type 1 Medium carbon Longer shank and shorter thread length than Grade 5 81,000 yield 	
ASTM A325 Type 1 Medium carbon Longer shank and shorter thread length than Grade 5 81,000 yield 	ASTM A325 Type 2 Low carbon martensitic
SAE J429 Grade 8 Medium carbon 130,000 yield 	 ISO R898 Class 8.8 Medium carbon 92,000 yield 
ASTM A490 Alloy steel Longer shank and shorter thread length than Grade 8 130,000 yield 	 ISO R898 Class 10.9 Alloy steel 130,000 yield 

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

SIZE (DIAMETER) - Threads per Inch	Torque Range in foot -pounds (see notes 1, 2 and 4) with locknut and hardened washer	
	SAE J429 Grade 5 ASTM A325	SAE J429 Grade 8 ASTM A490
1/4 - 20 1/4 -28	5-6 6-7	7-8 8-10
5/16 - 18 5/16 - 24	11-13 12-15	15-18 17-21
3/8 - 16 3/8 - 24	19-24 22-27	27-33 31-38
7/16 - 14 7/16 - 20	30-35 35-40	45-55 50-60
1/2 - 13 1/2 - 20	30-35 35-40	45-55 50-60
5/8 - 11 5/8 - 18	95-115 105-130	130-160 150-180
3/4 - 10 3/4 - 16	165-200 185-225	235-285 260-320
7/8 - 9 7/8 - 14	270-325 295-360	380-460 415-505
1 - 8 1 - 14	400-490 440-535	565-690 620-755
1 1/8 - 7 1 1/8 - 12	495-600 555-675	800-975 900-1095
1 1/4 - 7 1 1/4 - 12	700-850 775-940	1135-1380 1255-1525
1 1/2 - 6 1 1/2 - 12	1215-1480 1370-1660	1975-2390 2220-2700

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.
4. Use these torque values unless otherwise specified.

NUMBER: B090R1083-0

DATE: AUGUST 17, 1990

SUPERSEDES:

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: ALL RIDES (With Folding Floors)

Subject: SAFETY DECAL

Chance Rides, Inc. requires the owners of all portable amusement rides with folding floors to instruct their personnel on the safe raising and lowering of the floor sections. At no time should anyone be allowed underneath the floor sections while they are being raised or lowered. Failure of a person to abide by this safety regulation could result in injury to that person.

Chance Rides, Inc. has developed a safety decal designed to remind persons to stay clear of folding floors while they are being raised or lowered. Owners are required to install these decals on all portable amusement rides with folding floors. Installation of decals shall be in such a manner so as to draw attention of all ride personnel.

See the reverse side of this bulletin for sample placement of the safety decals. Each ride should have one decal at the end of each folding floor section. Order the number of decals required for all rides with folding floors. Order part number 22198501. These decals are being offered free of charge, if ordered within 90 days of the date on this bulletin.

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

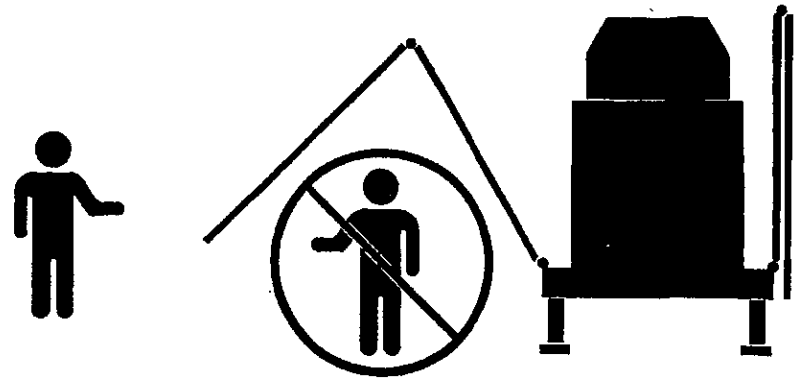
NOTICE

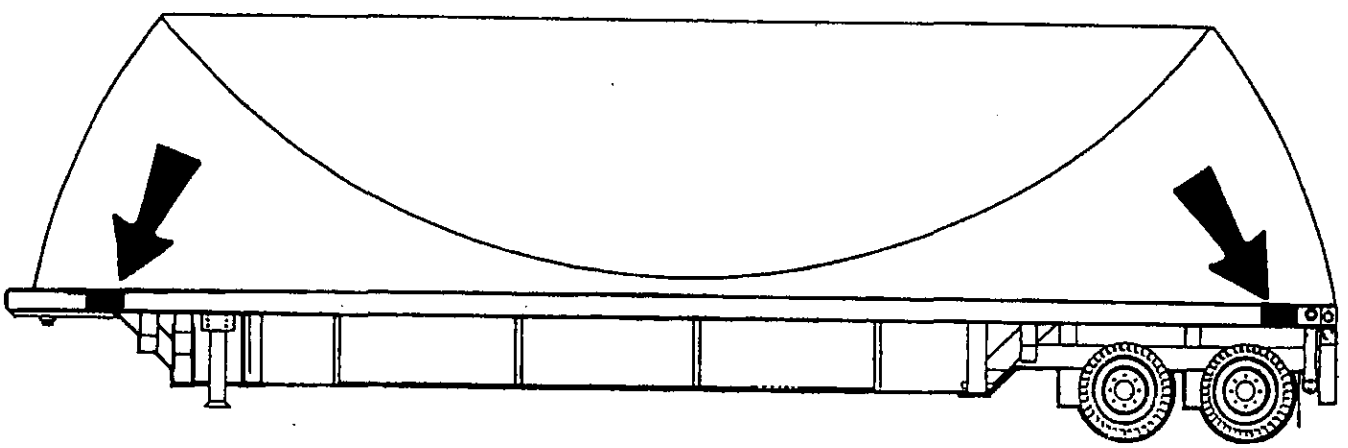
Use only those components authorized, specified or provided by Chance Rides, Inc.

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

CAUTION

REMAIN CLEAR OF FLOORING WHILE RAISING OR LOWERING.





NUMBER: B090R1108-0

DATE: MAY 1, 1.992

SUPERSEDES:

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: All Rides with Hydraulic Cylinders

Subject: Rod Clevis Bolt Warning Decal

Chance Rides, Inc. requires a warning decal to be in place on the clevises of all hydraulic cylinders equipped with screw-on clevises held by set screws or clamping bolts.

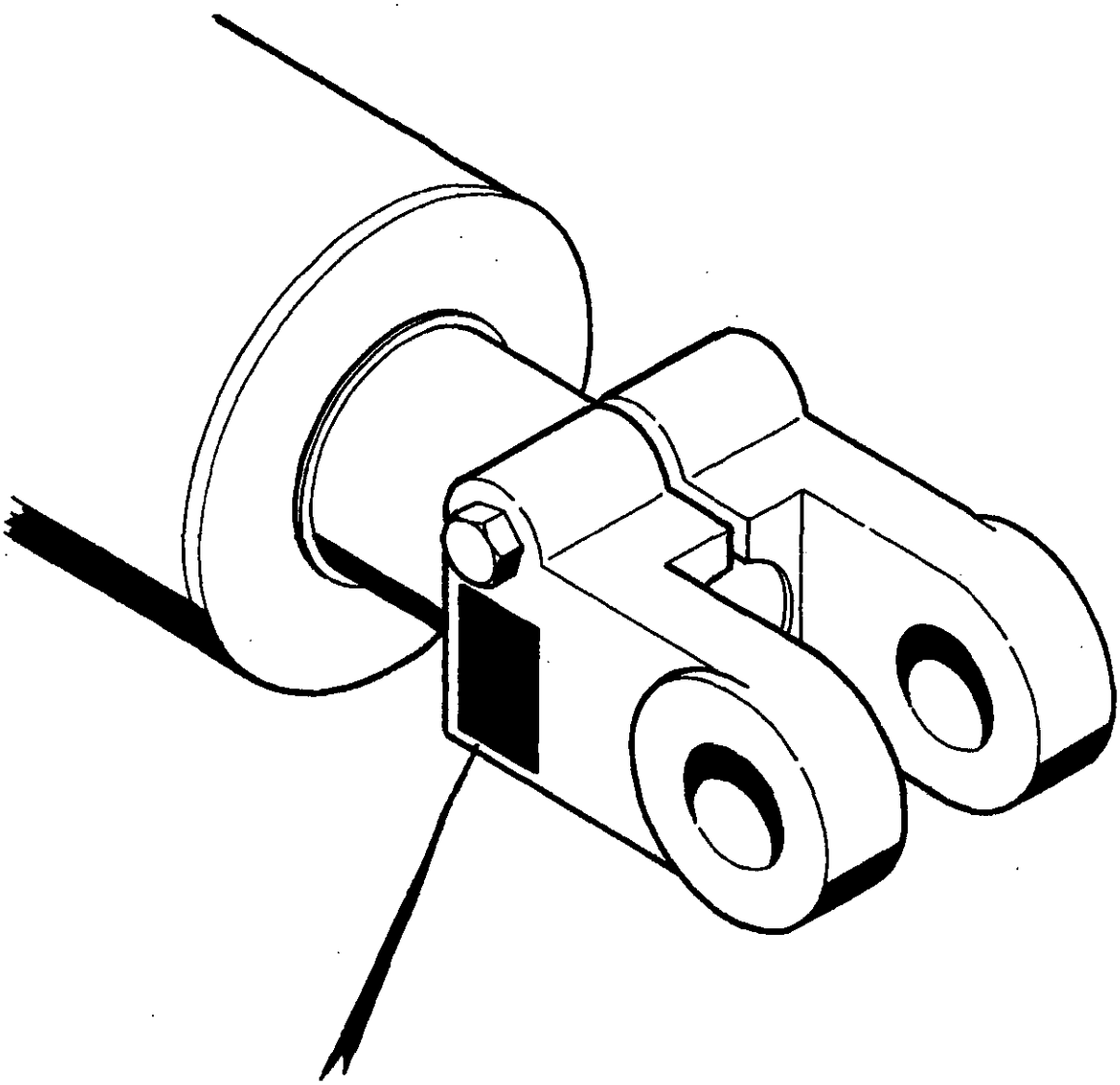
If your ride is equipped with hydraulic cylinders that have screw-on clevises with set screws or clamping bolts you are required to inspect the clevises for the warning decal. If the decal is missing, painted over or otherwise defaced, use the enclosed decal as a replacement, apply as shown on this bulletin. For additional decals call Chance Rides Customer Service Department and order part number 22203202.

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

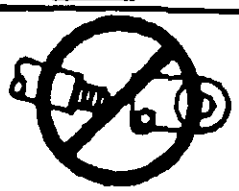
NOTICE

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.



WARNING



* THREAD ON FULLY
* TIGHTEN NUT ON BOLT

NUMBER: B090R1126-0

DATE: MARCH 12, 1993

SUPERSEDES:

SERVICE BULLETIN

Effective Serial Number: All Units

Ride: All Rides

Subject: Manufacturer's Specifications

Reference Standard:

ASTM - F24 Standards on Amusement Rides and Device

1. F853 Maintenance Procedures for Amusement Rides and Devices
2. F893 Inspection of Amusement Rides and Devices
3. F1159 Design and Manufacture of Amusement Rides and Devices

Chance Rides, Inc. at the time of the initial design and prototype manufacture determines by calculations and testing the appropriateness of the functional design criteria. The visual esthetics of the ride are also evaluated and together with the functional design criteria make up the manufacturer's design specifications. These design specifications are adhered to on all subsequently produced rides of the same style. Occasionally, through field experience, it becomes necessary to specify a modification to the original design specifications. Actual modification of the amusement ride to meet the change in design specifications can only be performed by qualified personnel, following the directives of a Chance Rides, Inc. Service Bulletin, Service Kit, or a Chance Rides, Inc. representative, where applicable.

Any modification performed on a Chance Rides, Inc. product outside the recommended directives established by Chance Rides, Inc. as referenced above, constitutes an unauthorized modification. Chance Rides, Inc. specifically disclaims any liability for losses associated with any unauthorized alteration and/or modification to any of its products. Chance Rides, Inc. will not issue letters for the operation of rides which do not meet the manufacturing specifications, this includes cases where the non-conforming modification is of an aesthetic nature only.

It is the responsibility of the individual inspector to thoroughly inspect the ride as deemed necessary, based on his knowledge and field experience to determine that the ride meets the manufacturer's specifications and/or is safe for operation.

NUMBER: B090R1128-0

DATE: APRIL 28, 1993

SUPERSEDES:

SERVICE BULLETIN

Effective Serial Number: All Units

Ride: All Rides Subject: Cable Inspection

Reference Standards: OSHA 1926-550 Subpart N
Cranes, Derricks, Hoists, Elevators and Conveyors

ANSI B30.5
5-2.4.3 Rope Replacement
5-2.4.4 Rope Maintenance

Chance Rides, Inc. recognizes the above listed standards with regards to cables (wire rope) used for rigging, slings, and hoists for the purposes of setup and/or tear down of an amusement ride. It is further recognized that no precise rules can be given to determine the exact life expectancy of any given cable, due to the variables to which that cable may be subjected. Continued use of a cable depends on the judgment of the individual who is authorized to evaluate the cable.

Chance Rides, Inc. requires that prior to each setup or tear down of an amusement ride, that the owner's authorized representative inspect and evaluate all cables, specified in this bulletin. Cables specified in this bulletin must be replaced if any of the following conditions exists:

1. Six randomly distributed broken wires in one lay;
2. Three broken wires in any one strand in one lay;
3. Wear of one-third the original diameter of outside individual wires:
4. Physical damage such as kinking, crushing, bird caging, or any other damage resulting in distortion of the cable structure:
5. Damage due to heat of any kind: or

6. Reductions from the nominal cable diameter of more than any of the following:

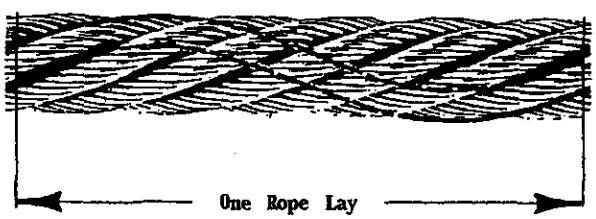
NOMINAL CABLE DIAMETER	MAXIMUM REDUCTION
5/16" AND SMALLER	1/64 OF AN INCH
- 1/2"	1/32 OF AN INCH
9/16 - 3/4"	3/64 OF AN INCH
7/8 - 1-1/8"	1/16 OF AN INCH
1-1/4 - 1-1/2"	3/32 OF AN INCH

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

NOTICE

When it is deemed necessary to replace a cable, use only those components authorized, specified or provided by Chance Rides, Inc. 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.

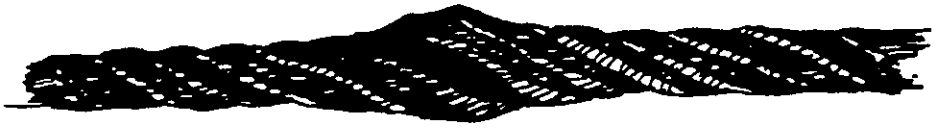
For inspection of drive cables or cables used to support the ride during operation refer to Chance Rides, Inc. Service Bulletin Number B090R1071-0.



"Lay" as a unit of measure

Cable Terms

Kinking



Crushing

Bird Caging

NUMBER: B090R1133-0

DATE: AUG. 6, 1993

SUPERSEDES:

SERVICE BULLETIN

Effective Serial Number: ALL UNITS WITH QUARTZ FLOODLIGHTS

Ride: ALL RIDES

Subject: FLOOD LIGHT SAFETY

Chance Rides, Inc. now installs a special tape to the lens of the factory installed quartz flood lights used on amusement rides. This tape helps prevent the glass lens from falling apart even if it should break. This provides an additional measure of safety to personnel and passengers of the rides.

Chance Rides, Inc. requires all owner/operators of Chance Rides products with quartz flood lights to order and install tape, part number 45001700 as outlined in this bulletin. Tape comes in 10 inch width and is available by the foot. Order the appropriate amount, to the nearest foot, to insure all flood lights have been completely covered. This tape is available at no charge if ordered within 90 days of the date on 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.

Installation Instructions

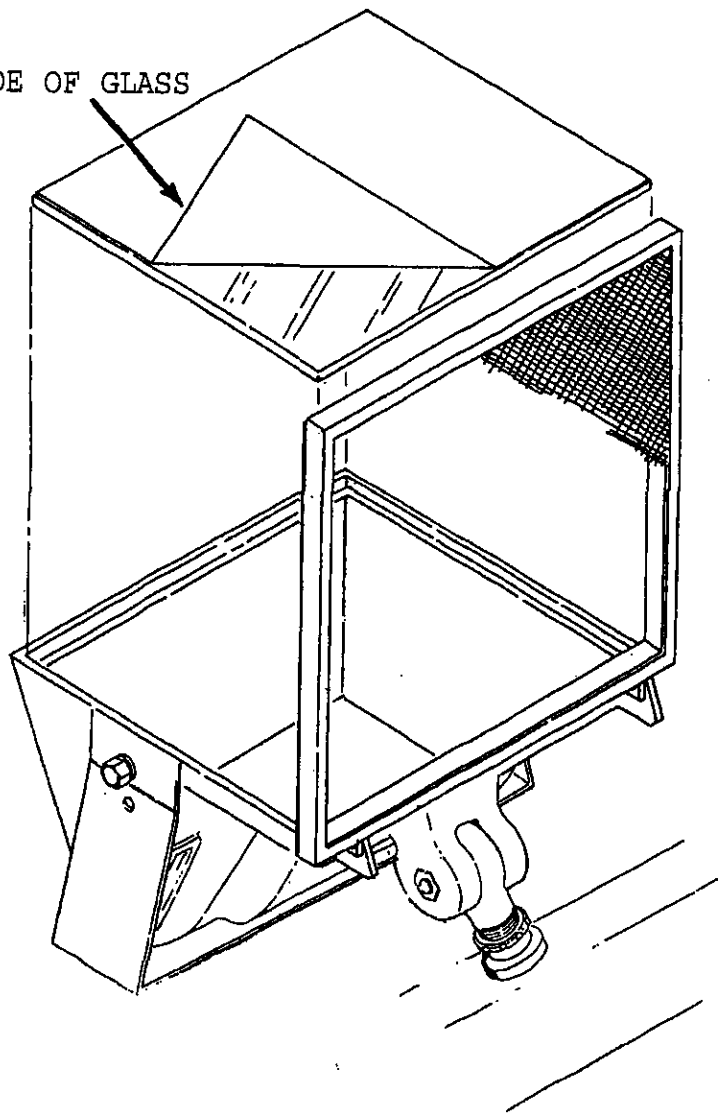
1. Remove glass lens from light fixture.
2. Measure and trim tape to fit lens.
3. Carefully remove the backing from the tape.
4. Apply tape to glass in such a manner as to prevent air bubbles from forming.

NOTE: A fine mist of water applied to the glass first may help eliminate air bubbles as well as increase the ease by which the tape is applied.

IMPORTANT: If water is used, make sure all water has evaporated from between the glass and the tape before turning light on. A period of at lease two days may be required for evaporation.

CAUTION: Quartz flood lights can get extremely hot. Do not attempt to apply tape after light has been on.

TAPE IS APPLIED TO OUTSIDE OF GLASS



NUMBER: B090R1166-0

DATE: NOV. 18, 1994

SUPERSEDES:

SERVICE BULLETIN

Effective Serial Number: ALL UNITS WITH THREE-POSITION SWING KNOBS

Ride: ALL RIDES

Subject: REPLACEMENT OF THREE-POSITION SWING KNOB SWITCH

Chance Rides, Inc. has determined, through field experience that the three-position swing knob switches used on many Chance Rides, Inc. products may not meet our specifications. These swing knob switches are located on the operator's control panel and can be identified as those knobs which have three positions, the center position being the neutral position with the knob automatically returning to that position by means of a spring. These swing knob switches require routine inspection to insure the spring is functioning properly in returning the knob to the center position. If the spring breaks, the knob will not return to the center position. If the knob does not return to the center position, the ride may not function as the operator expects, resulting in possible injury to the operator, attendants and/or passengers.

Chance Rides, Inc. is now using a new three-position swing knob switch and requires all owner/operators of Chance Rides, Inc. products with three-position swing knob switches to order and install the new replacement knobs and mating contact blocks. Refer to the chart on this bulletin to help identify those rides having swing knob switches which need to be replaced, along with the quantity of swing knob switches and the number and kind of contact blocks required for each ride as well as the appropriate part numbers for each item. The cost of these new style swing knob switches and contact blocks will be credited back to the purchaser if the old style swing knob switch is returned to Chance Rides, Inc. within ninety (90) days of the date on this bulletin.

WARNING: TO PREVENT ELECTRICAL SHOCK, BE SURE THAT THE MAIN POWER TO THE UNIT IS TURNED OFF AND LOCKED-OUT BEFORE ATTEMPTING TO DO ANY ELECTRICAL WORK ON THE UNIT.

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

NOTICE

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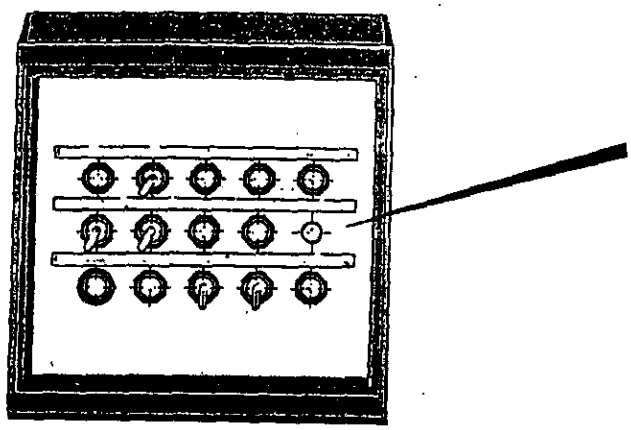
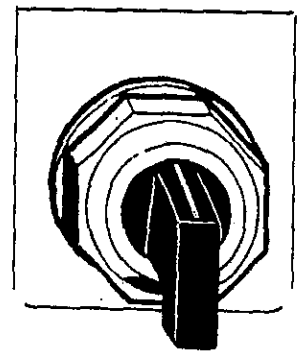
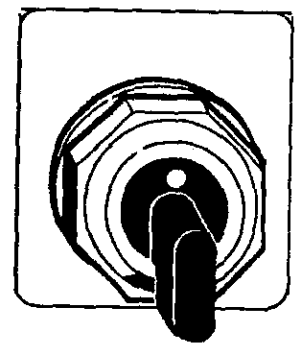


EXAMPLE OF CONTROL PANEL
All control panels do not look alike.



NEW STYLE



OLD STYLE

PARTS NEEDED TO REPLACE OLD STYLE SWING KNOBS WITH NEW REPLACEMENT SWING KNOBS

RIDE	SERIAL NUMBER	SWING KNOB P/Nr24842003	CONTACT BLOCK 1 N.O. P/N 20634601	CONTACT BLOCK 2 N.O. P/N 20634900	CONTACT BLOCK 2 N.C. P/N 20635200
CENTURY WHEEL	406-00193 – 406-02594	2		3	
GIANT WHEEL	400-00188 – **400-03894**	2		3	
MGR W/HCP	ALL	1		2	
PHARAOH'S FURY	407-00194 – 407-00294	1		1	
ROTOR	372-03688 – 372-03893	2		2	
WIPEOUT	402-00190 – 402-02894	3	3	3	
YO-YO	376-06889 – 376-07593	1		1	
ZIPPER	106-I 4590 – 106-I 8094	3		4	1

NUMBER: P09OR1179-0

DATE: September 22, 1997

SUPERSEDES:

PRODUCT IMPROVEMENT NOTICE

Effective Serial Number: All Units

Ride: All Rides

Subject: Rust Stain Remover

Chance Rides, Inc., in conjunction with Delta Foremost Chemical Corp. now offers to the amusement industry, De-Stain 4564-ES, a cleaner which can remove unsightly rust stains from painted surfaces and masonry. De-Stain can also be used to clean and brighten stainless steel.

De-stain is an easy-to-use liquid which can renew the appearance of painted surfaces on amusement rides. De-stain comes as a concentrate in either quart, part number 21464600, or gallon, part number 21464500, containers. A free sample of De-Stain is available if ordered within 90 days of the date on this bulletin. The sample comes in a spray bottle for easy application. This spray bottle can be refilled for additional De-Stain application. To order your free sample of De-Stain, contact your Chance Customer Service representative at 1-800-242-6231.

Directions for Using De-Stain:

1. Dilute De-Stain 50-50 with water, warm water works best.
   Note: Free sample bottle comes half full for easy dilution.
2. Spray on rust stain area or area to be cleaned.
3. Allow to stand for at least one minute.
   Note: DO NOT allow De-Stain to dry on part's surface.
4. Rinse area with wet cloth or flush with water.
5. Wipe with a dry cloth.
6. Reapply as required, agitate with brush if necessary.

CAUTION : DO-

1. Read and follow all safety precautions printed on content labels and MSDS sheets.
2. Keep out of reach of children.
3. Wear protective eye care devices and rubber gloves. May cause skin irritation.
4. Clean-up area after use.
5. Test this product on a small area before using.

CAUTION: DO NOT-

1. Use in food areas.
2. Allow contact with glass, marble, or aluminum.
3. Take internally.

De-Stain contains ethylene glycol monobutylether and fluorides.

FIRST AID: EYES - In case of contact, immediately flush with plenty of water for at least 15 minutes. Get medical attention immediately.

INGESTION - If conscious, give large amounts of lime water, or milk of magnesia or water. Get medical attention immediately.

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Bulletin No:	B090R1229-0
Release Date:	November 1, 1999
Effective Date:	November 1, 1999
Supersedes:	N/A
Completion Date:	N/A
Page:	1 of 8

SERVICE BULLETIN

Ride Manufacturer: CHANCE RIDES, INC.	Affected Production Dates: All
Ride Name: ALL RIDES	Affected Serial Nos.: All units
Model No.: All	

Abstract of Issue:

Hydraulic Hose Installation, Inspection and Maintenance

Reason For Release:

Chance Rides, Inc. utilizes hydraulic hoses in the design of all hydraulic systems. The material, size, length and configuration of each hose is carefully selected based on a number of factors. These factors include, but are not limited to, location, function, operating pressure and capacity.

Improperly installed hoses, or installation of the wrong hose can cause failure of the hose, resulting in leakage, rupture, or contamination of the hydraulic system. These types of failure can cause malfunction of the equipment or fire, and can result in serious personal injury.

Action to be Taken:

Replacement hoses are available from Chance Rides, Inc. If replacement hoses are procured from another source, the new hose must meet all specifications of the original hose. When a hose is removed, it must be routed in such a manner that the new hose is kept away from moving parts and electrical connections. Hoses must be inspected regularly and maintained to keep them in good condition. This bulletin provides guidelines on specific causes of hose failure. These guidelines must be considered as part of an overall inspection and maintenance process.

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.

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Ride Manufacturer: CHANCE RIDES, INC. Affected Production Dates: All

Ride Name: ALL RIDES Affected Serial Nos.: All units

Model No.: All

Detail Of Issue

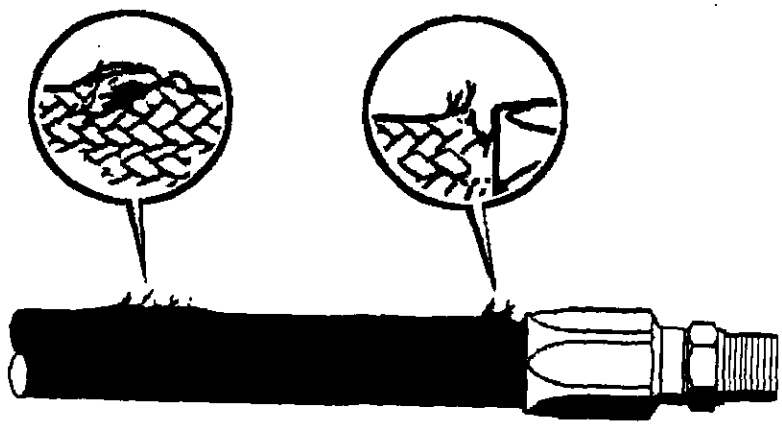
The following are common causes of hydraulic hose failure:

1. Improper pressure range
2. Excessive temperature (internal or external)
3. Fluid compatibility
4. Improper hose size - internal diameter
5. Improper hose length
6. Exceeding minimum bend radius
7. Hose / fittings mismatch
8. Improper alignment
9. Excessive abrasion
10. Improper use

1. Pressure Rating

Hoses must never be subjected to pressure greater than their rated working pressure. When the working pressure is exceeded, the safety factor is reduced, resulting in greatly shortened service life and premature failure, such as hose rupture or even "blow-offs" (separation of the hose from its end fitting). Premature failure increases operating costs through frequent replacement and increased down-time.

Hydraulic systems often experience momentary increases in pressure (surges and shocks) which are too short in duration to actuate the relief valve. When these pressure pulses are high enough and occur often enough, they exert excessive stress on the hose and reduce its life. Pressure peaks can cause failure in the hose, or at a fitting. When excessive pressure surges can be anticipated, a hose with a higher pressure rating must be selected.



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Ride Name: ALL RIDES Affected Serial Nos.: All units

Model No.: All

Detail Of Issue (continued):

2. *Temperature Rating*

Temperature extremes, both internal and external, are major contributors to early hose failure. Hoses which are continuously exposed to heating/cooling cycles will experience accelerated deterioration. When these cycles occur in conjunction with repeated pressure surges, hose service life is drastically shortened.

Hoses can become embrittled through exposure to exterior temperatures of several hundred degrees. This condition can be created by improper routing of the hose (e.g., where a hose is located near a manifold or other hot area). In such cases, the hose must be re-routed or shielded from the heat source.

3. Fluid Compatibility

Another major consideration in the proper selection of hoses is fluid compatibility. The performance characteristics of any specific hose material must be compatible with the fluid which it will contact in service. Incompatible fluids will affect the hose liner. It may become embrittled, softened, dissolved, shrunken or swollen. These conditions can cause leakage at or away from the fittings, or blow-offs. Solid particles from deteriorating hoses can clog valves and filters.

4. Size

If the internal diameter of the hose is too small to handle the full flow demanded by the system, flow is restricted by friction. Friction results in heat, both in the hose and the fluid. Heat leads to reduced hose life.

5. Length

In any hose installation, allow some extra length in the hose for slack. Pressure changes can cause a hose to lengthen by up to 2% or to shorten by as much as 4%. For example, a 100-inch hose can contract to 96 inches. If the hose has no slack, it will tend to pull away from the end fitting and will be damaged.

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Ride Manufacturer: CHANCE RIDES, INC. Affected Production Dates: All

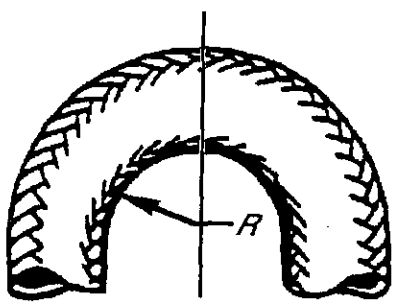
Ride Name: ALL RIDES Affected Serial Nos.: All units

Model No.: All

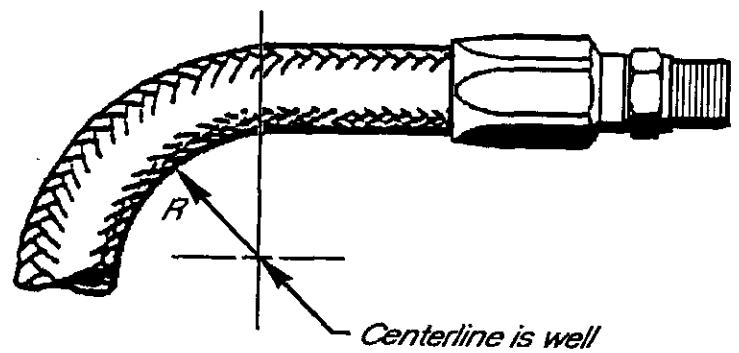
Detail Of Issue (continued):

6. Exceeding the bend radius

A bend radius that is too tight will result in reduced hose life. When a rubber hose exceeds its minimum bend radius the outside may appear smooth even if the inner tube is kinked. It is important to measure the bend radius as shown below to check that it is in the specified limits for that hose. Check with the supplier of the hose for its minimum bend radius.



Bend is too small



Centerline is well away from fitting

When a bend radius is too tight, immediately re-route the hose or use different adapters to correct the condition.

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Ride Name: ALL RIDES Affected Serial Nos.: All units

Model No.: All

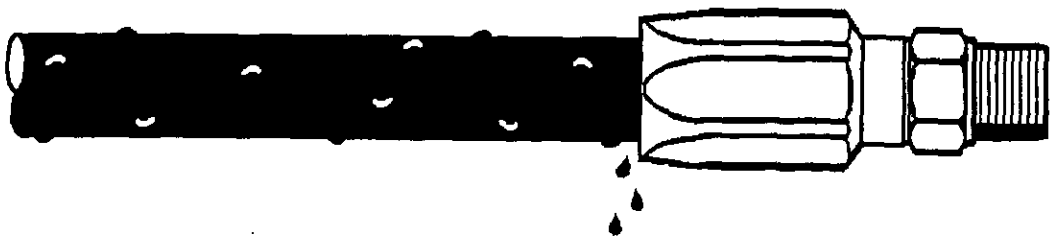
Detail Of Issue (continued):

7. Hose / Fitting Mismatch

When a hose blows away from a fitting, the can often be traced to either a mismatch where the wrong hose end fitting was selected for a particular hose or the fitting was incorrectly installed.

A typical hose/fitting mismatch is one in which the wall thickness of the hose is too large for the fitting. The fitting will not seat completely onto the hose without damaging one or both parts. This can cut the hose liner and result in leakage or blow-off.

Similarly, when a low pressure hose is installed onto a high pressure fitting, the hose wall is to thin to be gripped adequately. The hose will either blow-off or leak. Also, bubbling of the hose cover and leakage at the fitting are common.



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Ride Manufacturer: CHANCE RIDES, INC. Affected Production Dates: All

Ride Name: ALL RIDES Affected Serial Nos.: All units

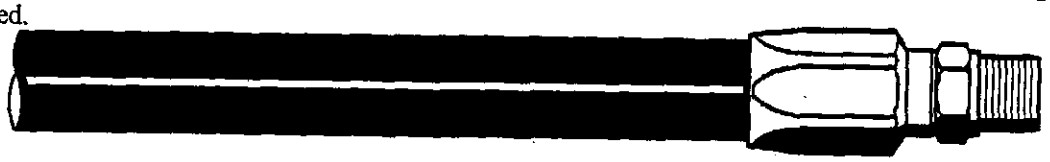
Model No.: All

Detail Of Issue (continued):

8. Improper Alignment

As hoses are routed and fittings tightened, the hose can become twisted. This condition must be avoided. A 7% twist in a hose can reduce its life by as much as 90%. Also, a twisted hose under pressure tends to "un-twist". This can cause the end fitting to loosen from its connection.

Hoses usually have a line printed on the outside as shown, called the "lay line". The lay line is useful as a point of reference in detecting twists in the hose. Keep the lay line straight as the hose is installed and fittings are tightened.



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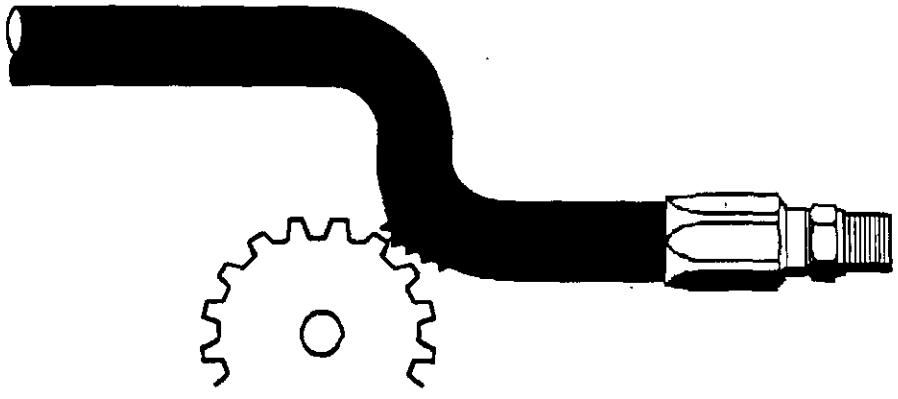
Ride Name: ALL RIDES Affected Serial Nos.: All units

Model No.: All

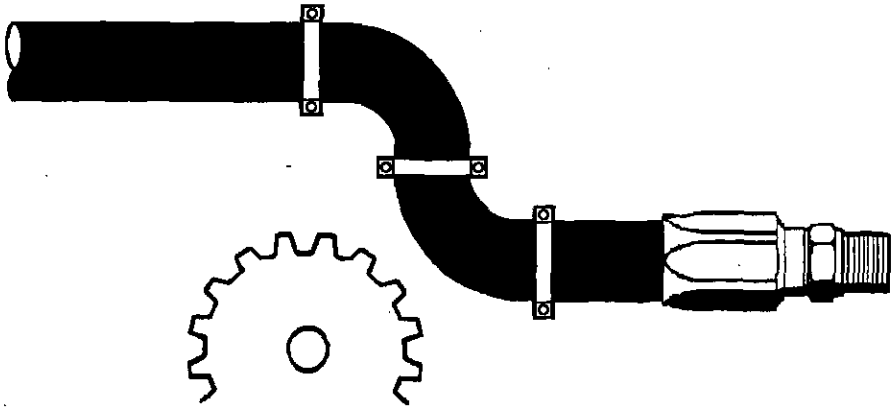
Detail Of Issue (continued):

9. Abrasion

Route hoses to avoid rubbing or abrasion between hoses, or between hoses and other components. While relative motion caused by moving parts is obvious, do not overlook motion created by vibration.



When a hose must be routed through tight areas or near moving parts, use clamps to secure the hose. Clamping helps keep hoses away from adjacent components. Do not exceed bend radius recommendations



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Ride Name: ALL RIDES Affected Serial Nos.: All units

Model No.: All

Detail Of Issue (continued):

10. Improper Use

Treat hydraulic hoses with care. Although not delicate improper handling and use will severely shorten their life. Do not stand on hoses or hang onto them when working on the equipment. Do not drive over or set heavy objects on top of hoses. Do not force or pull on hoses as they are installed. Keep sharp tools and other objects clear of hoses.

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Bulletin No: B090R1230-0
Release Date: November 1, 1999
Effective Date: November 1, 1999
Supersedes: N/A
Completion Date: February 1, 2000

SERVICE BULLETIN

Ride Manufacturer: CHANCE RIDES, INC. Affected Production Dates: All

Ride Name: ALL RIDES Affected Serial Nos.: All units

Model No.: All

Abstract of Issue:
Anti-Slip Surfaces

Reason For Release:
Injuries caused by slip-and-fall accidents are a well-recognized occurrence in the industry. Although aluminum tread plate has become a standard flooring material, certain conditions reduce its coefficient of friction. These conditions include, but are not limited to: moisture or other lubricants on the surface, excessive wear of the tread bars, etc. These conditions, combined with the variety of materials used in the construction of patron's shoes, can increase the risk of slip-and-fall accidents.

Chance Rides, Inc., installs anti-slip materials on appropriate areas of platforms, ramps, steps and walkways to improve the coefficient of friction in both wet and dry conditions.

Action to be Taken:
All owner/operators of the above noted amusement rides are required to inspect the condition of anti-slip surfaces on their rides. Worn or damaged anti-slip surfaces must be repaired or replaced. Anti-slip materials should be installed in additional areas as deemed appropriate by the owner/operator's particular application.

Detail of Issue:
In addition to the anti-slip materials installed at the factory, other products are available which can provide this safety benefit. Examples are anti-slip coatings, anti-slip tapes, cleats, etc. These after-market anti-slip materials can be installed in appropriate places at the owners determination. Anti-slip materials must be maintained per the manufacturer's instructions, provided with the product.

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

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SERVICE BULLETIN

Ride Manufacturer:	CHANCE RIDES, INC.	Affected Production Dates:	All
Ride Name:	ALL RIDES	Affected Serial Nos.:	All units
Model No.:	All		

Abstract of Issue:
Inspection and Maintenance Of Guards

Reason For Release:
Chance Rides, Inc. installs guards in areas, not otherwise protected by distance, where rotating or moving parts present a potential safety hazard. These areas include, but are not limited to, drive belts, rotating shafts, drive tires, fans, pinch points, etc. Guards are intended to be left in place at all times during operation.

Guards can be removed for maintenance or other service of the components underneath. Service in these areas must be performed only by personnel trained on the hazards associated with that specific service procedure.

Action to be Taken:
Missing, damaged, or improperly installed guards can cause damage to the equipment and can result in serious personal injury. All owner/operators of amusement rides are required to inspect and maintain all guards in good operating condition. If a guard is removed for service, it must be installed and properly secured before the ride is put back into operation. If safety decals are provided on or around a guard, they must be legible.

Detail Of Issue:
Replacement guards, fasteners and decals are available from Chance Rides, Inc.

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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Phone: 316-942-7411 ext. 2293
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CRM
CHANCE RIDES MANUFACTURING, INC.

Fax

To: Mike Triplett
State of New Jersey

From: Steven Laycock QA/Product Safety Mang.

Fax: 609-984-7084

Pages: 1

Phone:

Date: April 21, 2003

Re: Visual Inspection

CC: Henry Cole 561-642-7163

This is to reiterate the phone conversation between myself and Jerry, one of the New Jersey state inspectors.

Chance Rides Manufacturing, following the practices established by Chance Rides, Inc., sets guidelines for nondestructive testing and for visual inspection. These guidelines would include all nondestructive testing, other than visual, to be preformed by an individual certified in accordance with ASNT to a level II or III. Visual inspection, although thought of as a nondestructive testing method by the nondestructive testing profession, is used by CRM as a general tool to evaluate the overall structure. CRM advises certain areas of certain amusement rides to be visually inspected, however, as is common practice in the amusement industry, all areas of an amusement ride should be considered when doing visual inspections. CRM established the guidelines of visual inspections being those inspections which can be performed by the owner/operator.

If you have any questions regarding this information, please feel free to contact me.