

FAMILY COASTER

Field inspection and test guide



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Introduction

Proper maintenance is essential to the safe operation of this ride. The inspection points outlined in this field inspection guide are not intended to replace the recommended maintenance schedule. This guide does not contain maintenance and repair procedures and should only be used as a ride inspection guide.

When repairs are necessary use only those components authorized, specified or provided by the manufacturer. If any alterations, modifications and/or additions, installations of unauthorized components are made to the original design without the manufacturer's explicit written consent or without direct supervision by a manufacturer's representative, CHANCE RIDES INC., makes no claims as to the integrity of the altered or modified ride (product).

Information in this field inspection guide applies only to products manufactured by CHANCE RIDES INC. built after January 1, 1986.

CHANCE RIDES INC., reserves the right to make improvements in design or changes in specifications at any time without incurring any obligation to such changes.

Manufacturer's Specifications⁶

Reference Standard:

ASTM - F24 Standards on Amusement Rides and Devices

1. F583 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 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.

Ride description

The **Family Coaster** operates on a segmented tubular track, mounted on stationary track support structures. A variable frequency AC electric drive system drives the vehicles (train) to the top of the lift hill. The train completes the course by gravity. An air operated brake is provided to assist in stopping the train at the loading/unloading station.

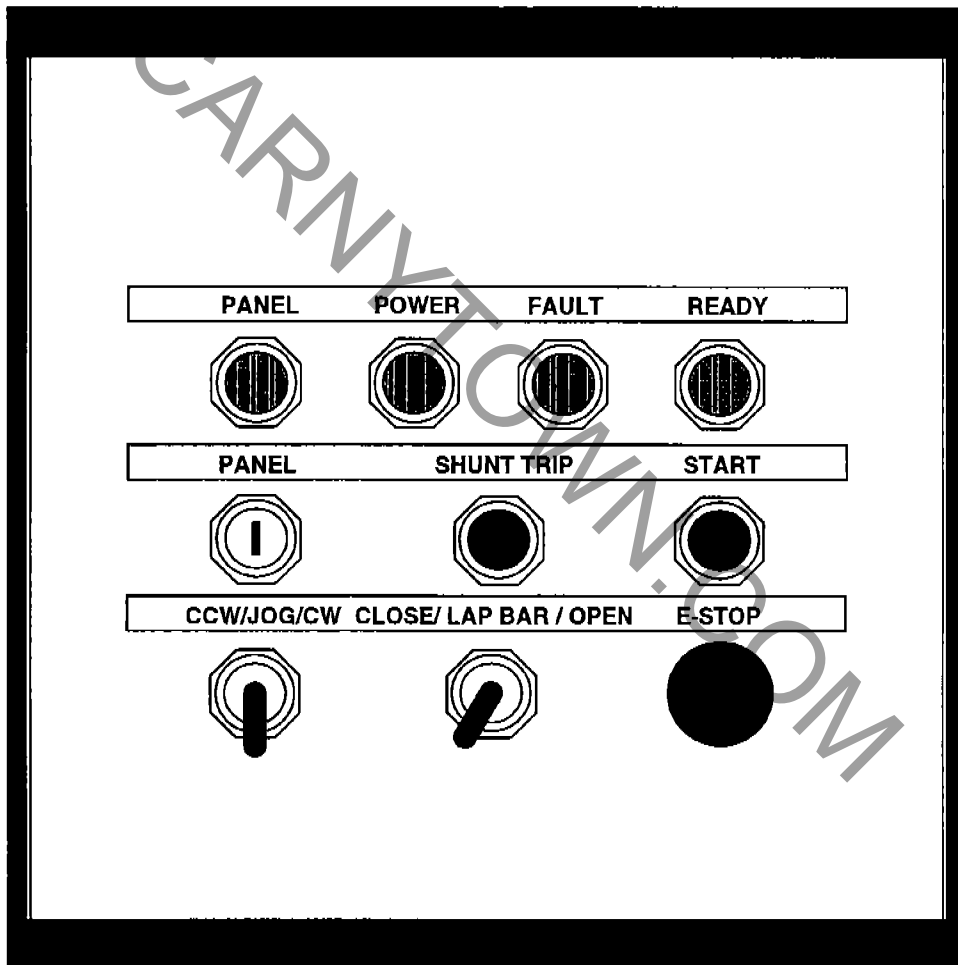
The ride information plaque is mounted to the main electrical cabinet. It lists specifications, operating dimensions, ground loads, as well as model and serial number and date of manufacture.

Detailed operation and maintenance information is available in the *Family Coaster Service Manual* (manual number 24100000).

For more information, or to order manuals, contact CHANCE RIDES, INC.



Operation



1. **Ready light** - This green light will come on when the train is properly positioned in the station, the LAP BAR SWITCH is in the "Closed" position, and there is sufficient air pressure in the air brake system. The ride cannot be started unless this light is on.
2. **Fault indicator light** - This red light is normally off when the MAIN POWER INDICATOR LIGHT and CONTROL PANEL POWER INDICATOR LIGHTS are on. If the fault indicator light is on, a fault is indicated and the ride will not operate. Notify the appropriate maintenance personnel. The ride will not operate until the fault has been corrected.
3. **Main power indicator light** - This green light is on when the main power circuit breaker on the main electrical box is in the "On" position.
4. **Control panel power indicator light** - This green light indicates that power is being supplied to the control panel. It comes on when the CONTROL PANEL POWER SWITCH is turned on.
5. **Control panel power switch** - Use this key-operated switch to turn on the power to the control panel. The CONTROL PANEL POWER INDICATOR LIGHT will come on.
7. **Shunt trip button** - Use this button to trip (turn off) the main power circuit breaker in the main electrical box. The MAIN POWER INDICATOR LIGHT will go out when this button is pressed.
7. **Start button** - Use this button to start the programmed ride cycle. The following conditions must exist for the ride to operate:
 - MAIN POWER INDICATOR LIGHT must be on.
 - READY LIGHT must be on (the READY LIGHT will not come on unless all lap bars have been lowered and locked).
 - CONTROL PANEL POWER INDICATOR LIGHT must be on.
 - FAULT INDICATOR LIGHT must be off.
8. **E-stop button** - This button interrupts the drive program. If the train is located on the lift hill when this button is pressed, it will come to a stop. From this point, the train may be backed down the hill using the jog switch. If the E-stop button is activated after the train is past the lift hill, the train will come to a stop on the next trip through the station. At this point, the JOG SWITCH can be used to position the train for unloading.
9. **Lap bar switch** - Use this switch to lock or release the lap bars.
10. **Jog switch** - Use this switch after the programmed ride cycle has ended to jog the vehicle either forward ("CCW") or reverse ("CW"). This switch is inoperable during the programmed ride cycle and is not used during normal operation of the ride.



Operating the ride (test cycle)

The operating procedure is provided on a decal, mounted in the cover of the operator's control console. Make sure the decal is legible. Test the operation of all controls. Throughout the ride cycle, check for correct speed and proper operation of all limit switches.

Check the overall performance of the ride based on previous operating performances of the individual ride.

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General inspection and testing

Testing

Field performance testing of amusement rides¹

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

Erection or installation testing

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

- a. Determine that ride has been erected according to the set-up procedures in the operations manual.
- b. Inspect field inspection points listed in the *Field Inspection Guide*.
- c. Visual check of all passenger carrying devices including restraint devices and latches, and the pins and capscrews securing them.
- d. Visual inspection of entrances, exits, stairways and ramps and devices securing them.
- e. Test of all communications equipment necessary for operation of the ride or device.
- f. Operate the ride to determine that direction of travel conforms to the information plate, ride manual field inspection guide of specification sheet.
- g. Operate the ride for a minimum of three ride cycles to determine that the ride speed does not exceed the speed specified in the information plate, ride manual, field inspection guide, or specification sheet.

Daily pre-opening inspection

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

1 B090R1002-0 May 14, 1986



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 construction, erection, operation, maintenance and repair of amusement rides.

Operational load testing

Any operational test including load testing performed on a ride shall be completely non-destructive in nature. Overload testing exceeding the rated limits listed on the information plate, operation manual, field inspection guide or specification 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.

Non destructive 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 non-destructive 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 non-destructive 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.

CHANCERIDES, INC. considers 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.



Non-destructive testing²

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

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

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

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

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

2 B090R1022-0 March 21, 1988



Fasteners

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 the 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% rated yield and group joint efficiencies of 62.5%

Torque requirements^s

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 nut or capscrew head (whichever is accessible for tightening). When the capscrew is tightened from the head end, apply anti-seize lubricant to the shank end 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.



SIZE (DIAMETER) - Threads per Inch	Foot-Pound Torque Range (see Notes 1 and 2) with Locknut and Hardened Washer	
	SAE J429 Grade 5 ASTM A325	SAE J429 Grade 8 ASTM A490
1/4 - 20 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	50-60 55-65	65-80 75-90
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 - 12	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.		

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*

Capscrew grades













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

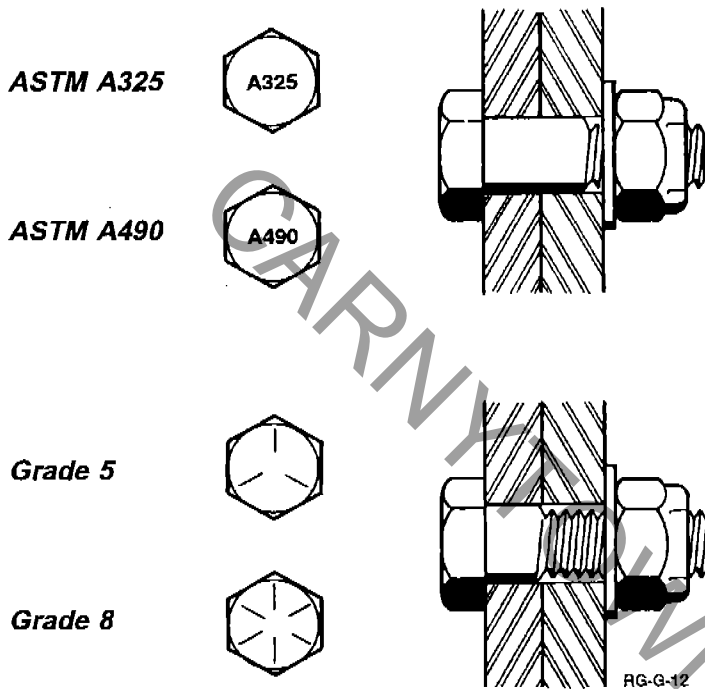


CHANCERIDES, INC. requires the use of cold-formed hex head capscrews with rolled threads. Hex bolts and hot formed hex head capscrews are not recommended because they may have machined threads and can have die seams along the shank.

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

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



Capscrew comparison
 ASTM A325 and A490 capscrews have longer shanks and shorter threads than Grade 5 and Grade 8 capscrews of the same size.

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.

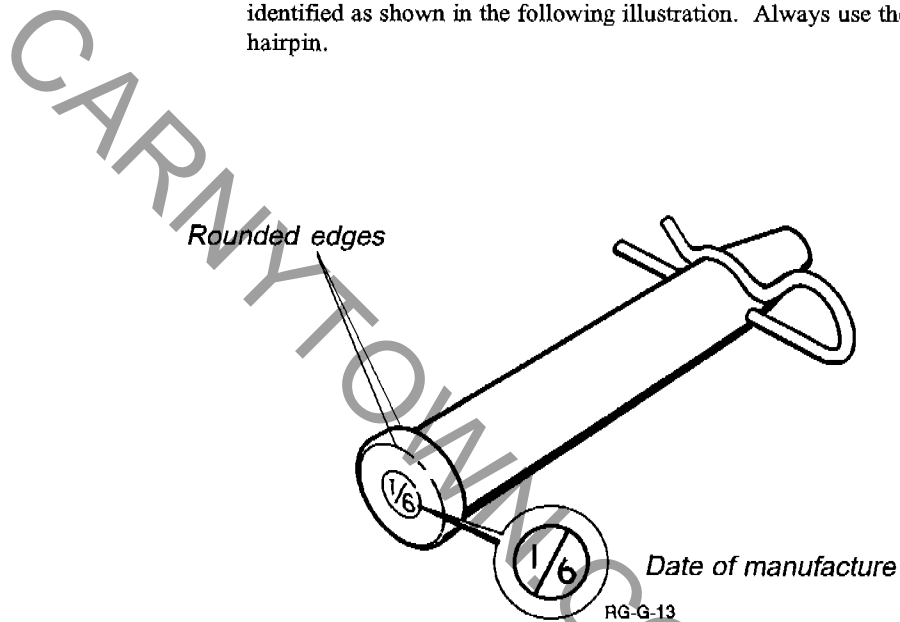
Capscrews and locknuts which are frequently disassembled for portability must be replaced each operating season. If the capscrews and locknuts become damaged, corroded or require excessive torque for removal, they must be replaced. If a torque wrench is not used to measure excessive removal torques,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

Pins³

Tapered pins used on amusement rides are subject to deterioration due to improper use and wear. CHANCE RIDES, INC. specifies certain pins for certain applications on amusement rides. These pins have been developed over a period of years, taking into account size, design, material and hardness characteristics.

Use only the pins specified by CHANCE RIDES, INC. These pins are identified as shown in the following illustration. Always use the correct hairpin.

Pin identification

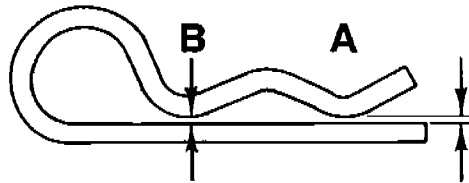


Use care when installing and removing tapered pins. Since these pins are hardened (as are hammers and punches) care must be taken to strike the pin straight on. Striking a pin at an angle can cause the pin to chip, resulting in personal injury. For this reason APPROVED SAFETY GLASSES OR GOGGLES MUST BE WORN AT ALL TIMES when tapered pins are being installed or removed. If a tapered pin is chipped, bent, or "mushroomed" on either end, discard it and replace it with a new pin.

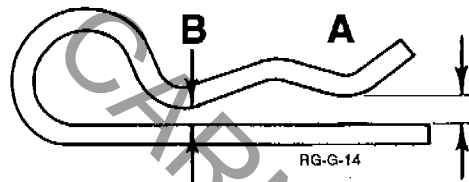
Pin keepers

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

Hairpins are expendable parts. After repeated use, they become worn and "sprung" as shown.



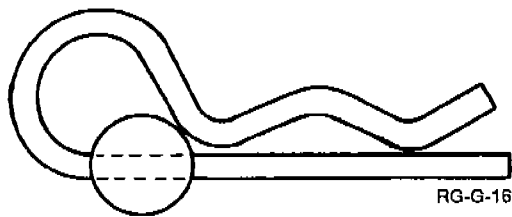
Acceptable hair pins
Dimension "A" equals dimension "B" in a relaxed position



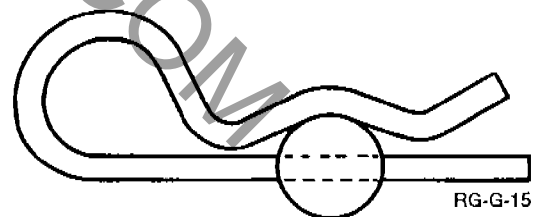
Unacceptable hair pins
Dimension "A" is greater than dimension "B" in a relaxed position

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

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



Incorrect



Correct

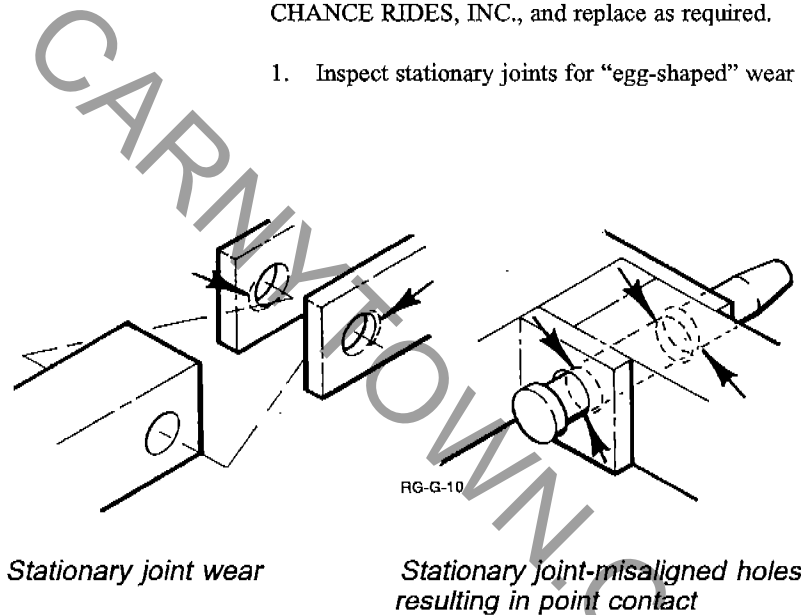
CHANCE RIDES, INC. recognizes and recommends the safety procedures specified in *ASTM Standards F770 Operation Procedures for Amusement Rides and Devices* and *F853 Maintenance Procedures for Amusement Rides and Devices*.

Inspection

Joint inspection

Some joints will appear to wear rapidly on new rides. This is usually a result of the holes not aligning in the mating parts. When this condition occurs it results in "point contact". A joint with this condition will generally wear rapidly until the load is distributed evenly over the fastener and the parts. If in doubt about the condition of a bolt, pin or hole on a new ride consult CHANCE RIDES, INC., and replace as required.

1. Inspect stationary joints for "egg-shaped" wear and loose pins.



2. Inspect moving joints for wear and lubrication.
3. Inspect welded structural joints for cracking or fatiguing.
4. Inspect bolted structural joints for cracking, fatiguing and proper bolt tightness.
5. Inspect pins and keepers on all pin joints for wear and proper installation.
6. Inspect all pins for proper CHANCE identification marks.



Cable inspection⁴

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

1. Severe corrosion
 - a. Rust appearing to stem from interior of cable.
 - b. Cable appears clean but previous corrosion is evident from pitted condition in 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".



Kinking



Crushing



RG-G-2

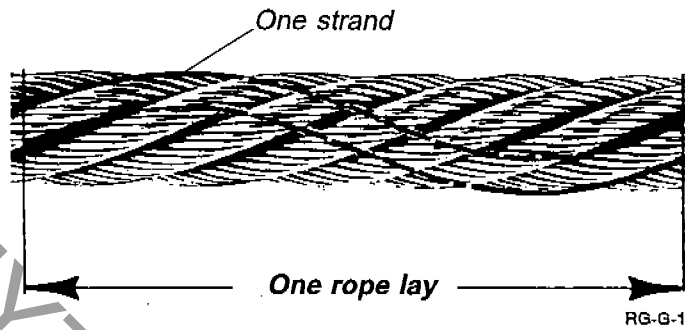
Bird caging

4 B090R1071-0 May 25, 1990



4. One strand being 75% broken through.
5. A number of wires, equal to the number in a strand, broken in the length of one rope lay.

"Lay" as a unit of measure



General safety guidelines

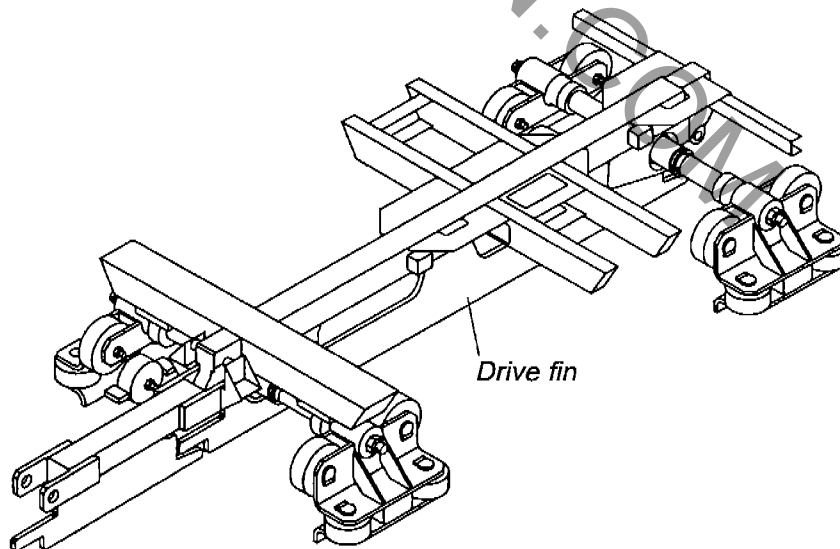
The following is a list of general safety rules to which everyone should adhere.

1. All work must be performed by competent, qualified mechanics, capable of understanding the function of the parts and their proper installation.
2. Inspect the ride before each day of operation to determine that no portion of the ride is damaged, missing or worn in such a manner that unsafe conditions can develop.
3. Perform the manufacturer's recommended maintenance procedures at the intervals and in the manner specified in the operation and maintenance manual.
4. Study each job carefully to determine all hazards so that necessary safety precautions can be taken.
5. Examine safety devices (tools, ladders, etc.) before used to insure they are in good condition. Use only OSHA approved safety items. Ladders must be clean and unpainted.
6. Use the proper tool or equipment for each job. All hand electric power tools must be properly grounded.
7. Wear close fitting, comfortable clothing when working on or near moving parts or live electrical circuits. Avoid finger rings, jewelry or other articles which can be caught in moving parts or come in contact with electrical circuits.
8. Protect eyes by wearing approved safety glasses or goggles.
9. Wear a hard hat at all times. When working in elevated areas, use a safety belt.
10. Where work performed is hazardous, never work alone.
11. If guards are 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 the date of replacement. Inform the manufacturer of any replacement requirements which are frequent or cause unsafe conditions.
14. Make modifications and additions only as outlined in manufacturer's service and safety bulletins.

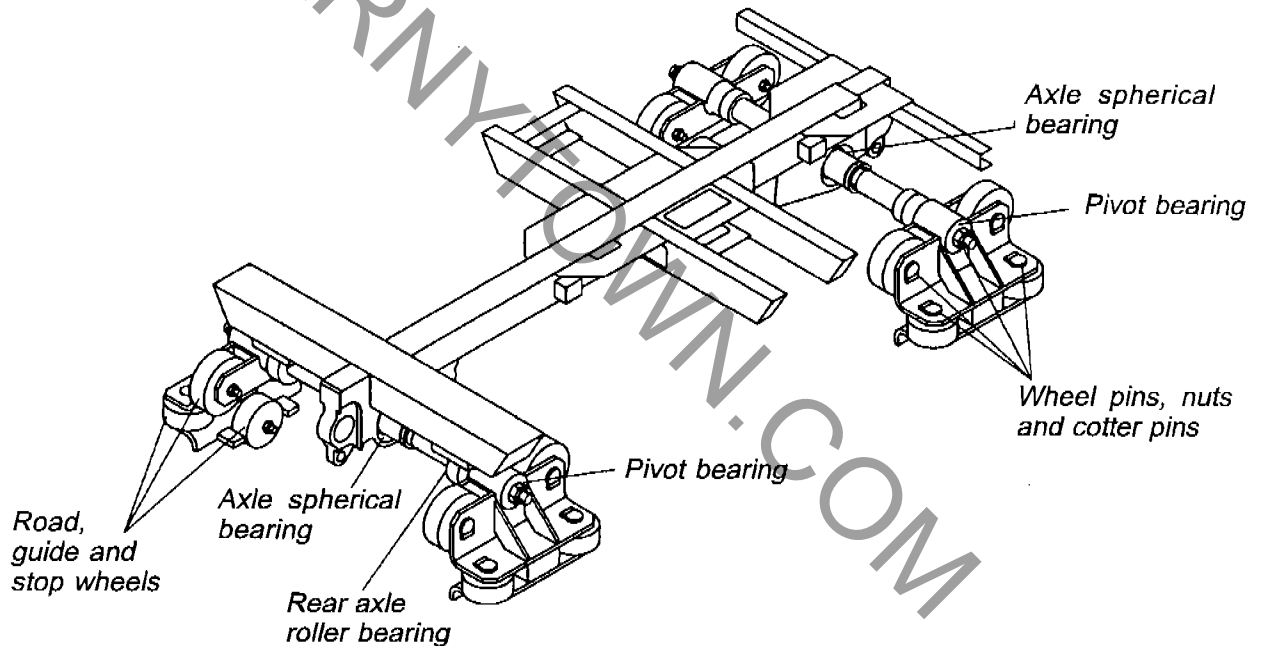


Vehicle inspection

1. Check the operation and locking of every lap bar daily.
2. Check the operation of the lap bar interlock system using the procedure described in the following topic, "Lap Bar Interlock System Operational Check".
3. Visually check the overall condition of each vehicle. Look for broken, damaged or missing parts. Inspect the seats and all vehicle surfaces for damage, such as worn or cracked fiberglass. Check the condition of all non-slip surfaces.
4. Inspect the vehicle frames as follows
 - Visually inspect the welds for cracks or other damage.
 - Check the torque on all fasteners holding the carriage and restraints in place.
 - Check for correct installation of safety cables between vehicles. Inspect the safety cables for wear.
 - Inspect the drive fin for wear and cracks. Check all fasteners.

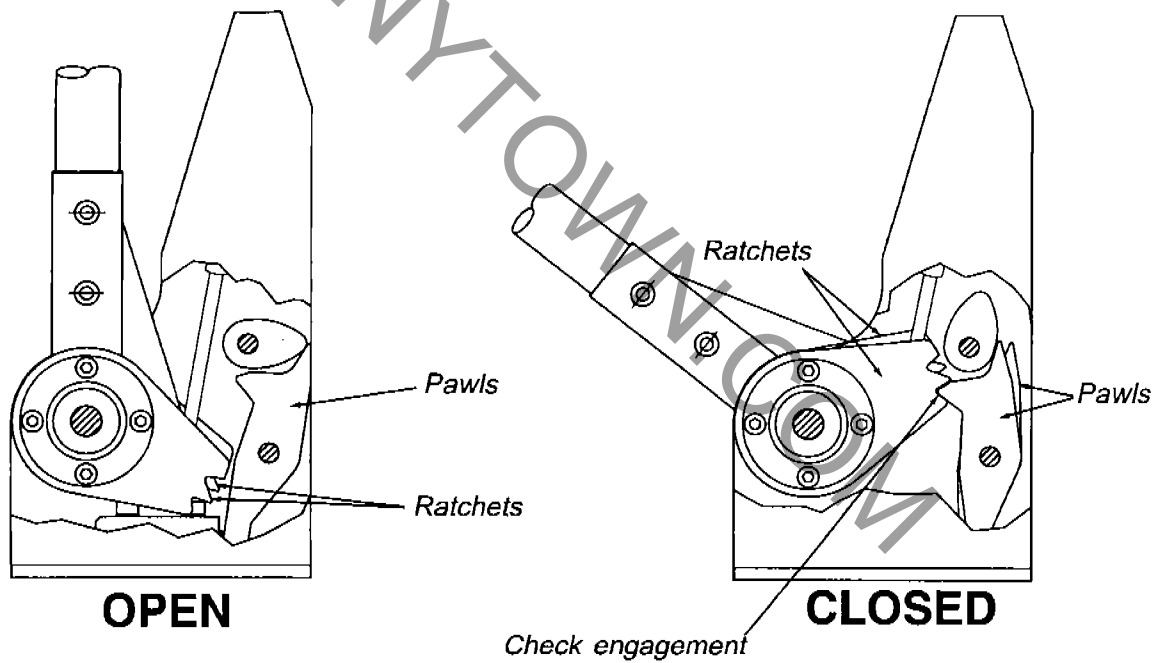


6. Inspect the trucks and wheels as follows:
- Visually inspect the welds on each truck for cracks
 - Inspect the road, guide and stop wheels for excessive wear or cracks. Wheels must be replaced when wear exceeds 3mm.
 - Check for correct installation of all wheels pins. Nuts must be tight, with cotter pins in place
 - Check for excessive play between the pivot bearing and axle.
 - Visually inspect the axle spherical bearings for wear or damage
 - Inspect the rear axle roller bearings for wear, as well as the bearing plates on the chassis they contact. Bearings must rotate freely.

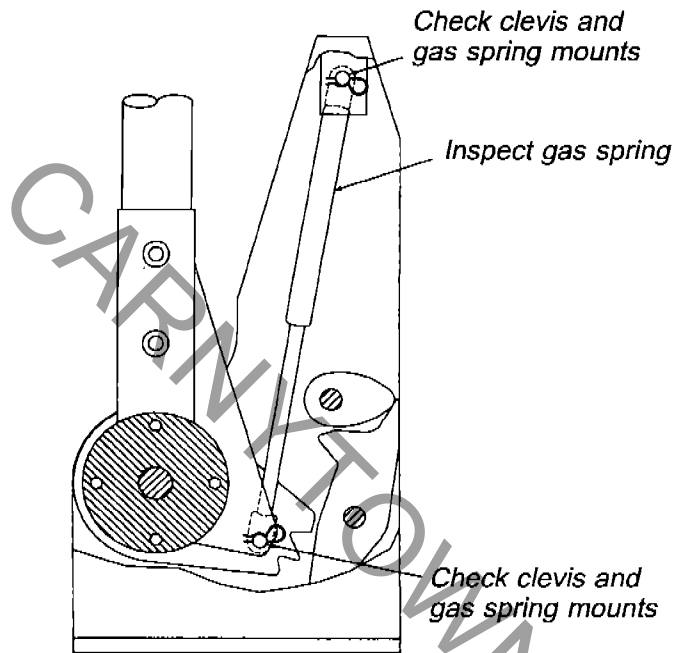


8. With the cover removed, inspect the lap bar locking mechanism on EVERY VEHICLE as follows:
- Visually inspect each ratchet and pawl for signs of wear or cracks.
 - Slowly pull down each lap bar and visually check the engagement of the pawls into the ratchets.
 - Operate the lap bar by pulling it down, then releasing it to check for smooth movement in the pivot bearings.

Lap bar locking mechanism



- Check the condition of the gas springs, including the clevis pins and mounts at each end.



Lap bar gas spring

7. Inspect all safety signs and placards.



Lap bar interlock system operational check

An interlock system prevents the ride from being started if the lap bar switch is in the "Open" position. The following check must be made daily to ensure the proper operation of the lap bar interlock system.



WARNING: Never load passengers in a seat unless the lap bar on that seat is in good working condition and the lap bar interlock system is operating correctly.

Do not tamper with or attempt to defeat the purpose of the lap bars or the lap bar interlock system. Serious injury to passengers can result.



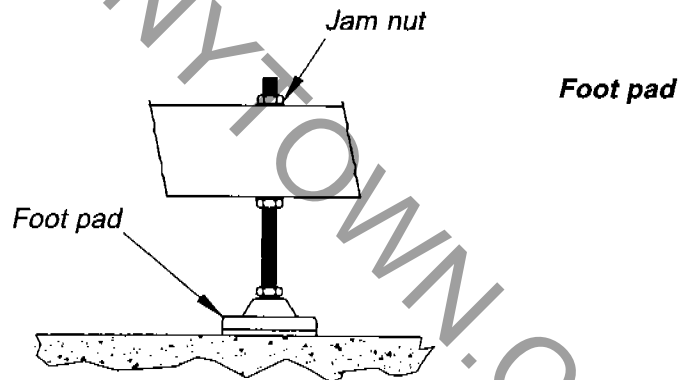
WARNING: When testing the lap bar interlock system, use only the JOG button. If the ride starts with the LAP BAR switch in the "Open" position, STOP THE RIDE IMMEDIATELY to avoid serious injury to the passengers.

1. With the ride stopped, release the lap bars by moving the LAP BAR switch on the operator's control console to the "Open" position. The READY light should go off.
2. Move the LAP BAR switch on the control console to the "Closed" position. The READY light should come on.
3. If the READY light comes on before the LAP BAR switch is moved to the "Closed" position, adjust or repair of the lap bar interlock system is necessary.
4. Press the START switch. The ride should start and run normally.

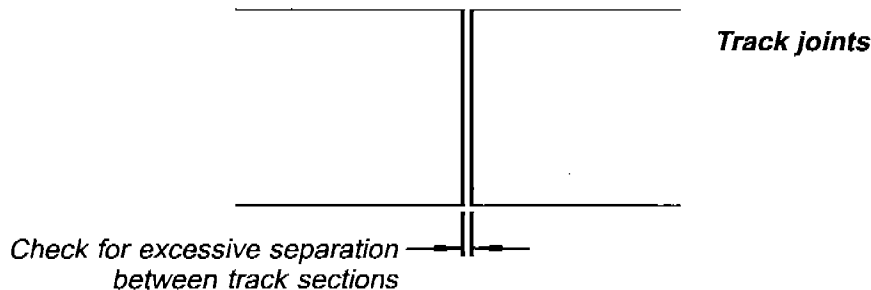


Track Inspection

1. Visually inspect the entire track and all support structures. Track tubes must be smooth, with no scratches, cracks or pits that can cause excessive wear to the wheels. Remove any dirt, sand or fallen debris from the track surfaces.
2. Inspect all track supports and bracing rods weekly as follows:
 - Inspect welds for cracks or other damage.
 - Check the fasteners on all bracing rods and stand connections for signs of looseness or corrosion.
 - Inspect the footpads and supports. All footpads must be engaged with the ground for proper ride support. Check jam nuts on footpads.



3. Inspect all track connections monthly as follows:
 - Inspect for proper installation of all track connection fasteners. Tighten nuts to 265 ft-lbs (dry). If it is necessary to tighten the capscrew head, tighten to 318 ft-lbs.
 - Check the transitions between track sections. These should be smooth. If not, loose fasteners or slippage may have occurred.



Drive inspection

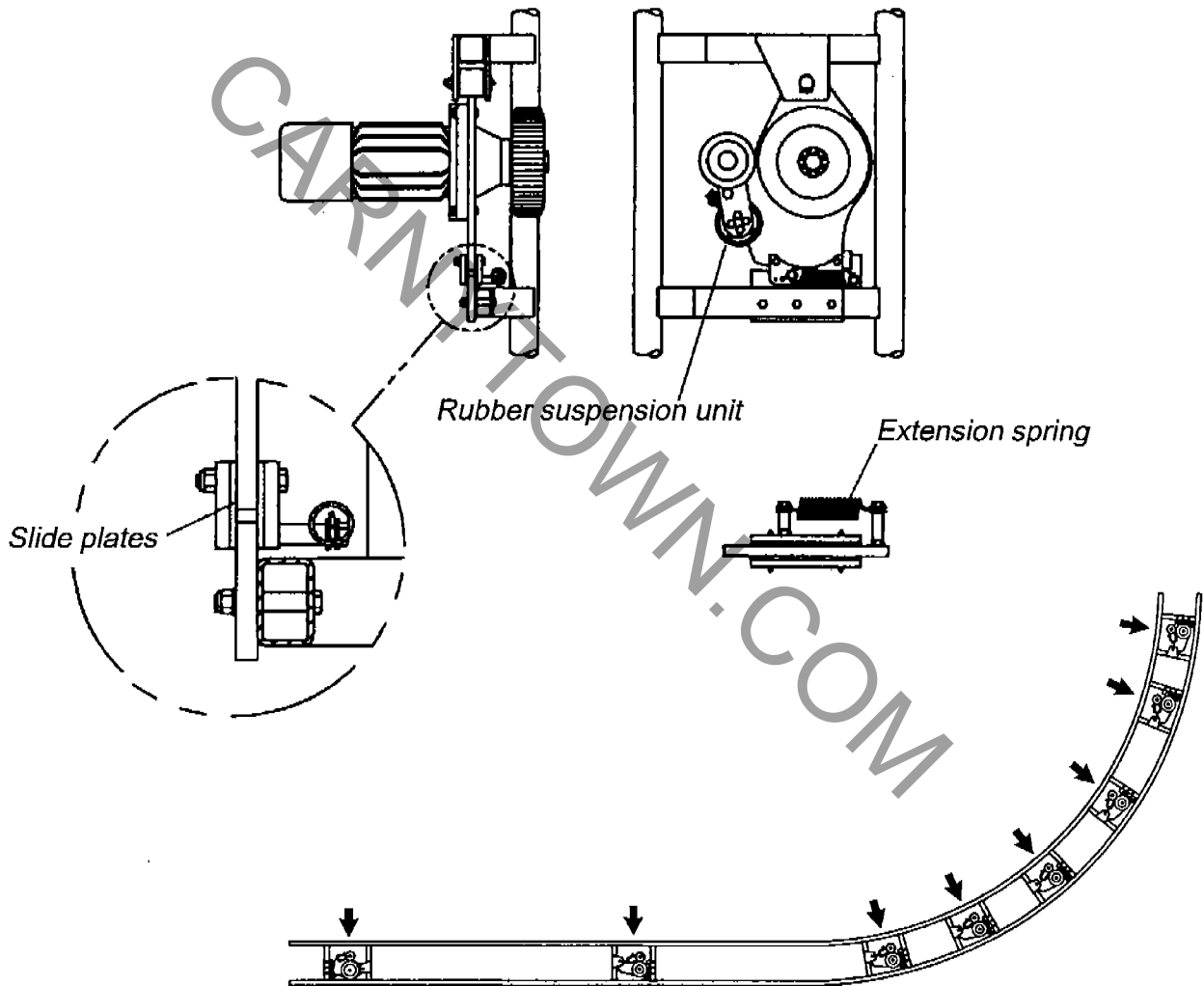
1. Check for excessive wear on brass slide plates.
2. Check for play between motor plate slides and track slide plate.
3. Check for proper installation of all fasteners.
4. Inspect extension spring for damage.
5. Inspect the rubber elements in the suspension units during regular maintenance of the coaster every 6 months. Look for rubber extruding from the housing. Also inspect for rubber particles starting to wear away from the main rubber elements. Inspect for rusting of the inner and outer housing that will adversely affect the rubber elements.

Air system inspection

1. Check for the proper air pressure settings at the regulators:
 - 100 psi at the reservoir
 - 40 psi at the air brake service valve regulator
 - 60 psi at the lap bar valve regulator
 - 90 psi at the air brake emergency air valve
2. Check the brake air system, including hoses, tubes, fittings and other components for leaks.
3. Check the lap bar air system, including hoses, tubes, fittings and other components for leaks.
4. Check the operation of the READY LIGHT on the control console. The light should not come on until there is sufficient air pressure in the reservoir.



Drive inspection





Electrical system inspection

1. Check cable leads, electrical connections and grounding per local code.
2. Test the operator controls, including emergency stop switch and power switch.



Platform and fence inspection

1. Inspect hand rails, ramps, steps and walkways.
2. Inspect all gates and queue line chains. Self-closing gates must operate properly.
3. Inspect all entrance and exit signs.
4. Inspect all safety signs and placards.



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Bibliography

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

CHANCE RIDES, INC.
4219 Irving
P.O. Box 12328
Wichita, KS 67277-2328

FAMILY COASTER Service Manual
24100000

June, 1998

The *FAMILY COASTER Service Manual* includes the Set-up Manual, Operation Manual (#24100001), Maintenance Manual and Parts Catalog

1. *Field Performance Testing Of Amusement Rides*
B090R1002-0
May 14, 1986
2. *Non-destructive Testing*
B090R1022-0
March 21, 1988
3. *General Safety - Tapered Pins*
B090R1056-0
February 9, 1990
4. *Cable Inspection*
B090R1071-0
May 25, 1990
5. *Replacement And Torque Requirements For Functional Load Carrying Capscrews*
B090R1075-0
May 25, 1990



6. *Manufacturer's Specifications*
B090R1126-0
March 12, 1993

The following Product Improvement Notice is not referenced in the preceding text. The product improvement is not mandatory and may be incorporated at the owner's discretion.

Rust Stain Remover
P090R1179-0
September 22, 1997

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