

ARROW-HUSS COASTERS

We will consider the train-track system used on Corkscrews, Loops and other Arrow coasters as they are the same units in each case.

The following are to be checked every day the ride will operate, before opening the ride:

1. Track & Supporting Structure:

A. Walk around ride under track & check for:

1. Cracks (area close to ground) in ties, track, etc.
2. All cross braces & other structural members in place.
3. Any nuts, bolts, or other parts on the ground.
4. Loose or broken anchor bolts at the base of supports.
5. Grout solidly in place below column base plates.

B. Walk up lift stairway & check:

1. Lift chain for any sign of excess wear on side bars, pins, or barrels.
2. Chain guide for cracks or bending of channel & attachment gussets. Sand or other abrasive material. Polyethylene liner in place.
3. Track, ties and other welded areas.
4. Examine head shaft at top of lift for loose fasteners, alignment of shaft and sprocket. Wear pattern on sprocket.

C. Check all brakes for:

1. Loose fasteners.
2. Condition of brake friction material.
3. Air hoses for wear, cuts, etc.
4. Any signs that chassis has been rubbing on top of brakes.
5. Proper air pressure setting.
6. Water in filters.
7. Leaks in any piping or air line equipment.

2. Trains:

A. Check hitch yoke for:

1. Look for any signs of looseness or wear around the entire hitch area.
2. Thrust washers inside yokes on both pins must be in place.

2. There should be no fore and aft movement between coaches. No space between the hitch yoke and the rear of the chassis member.
4. All fasteners on hitch pins, including safety wire must be in place and secured.
5. Two safety cables must be in place and secure at both ends.
6. Safety arms over axles must be in place and secure at both ends.
8. Wheel carriers:
 1. The two SKF spherical bearings in the wheel carrier are to be lubricated daily with a small quantity of grease as shown on the axle assembly print.
 2. Visually check the wheel carrier weldment for any sign of bending or cracks.
- C. Check all wheels as follows:
 1. Wheels with excessive tread wear must be replaced. Any wear of 1/4 inch or more is considered to be excessive.
 2. Cuts & cracks or checking of the polyurethane are not cause for replacement as long as the tread is not coming off of the hub.
 3. Loose tread or missing chunks of tread is reason for replacement of the wheels if the chunks are large enough to extend into the normal running path of the wheel.
 4. All wheels should have 1/4 inch to 1/2 inch of oil showing in the hub caps.
 5. Wheel bearings should be adjusted so that a barely perceptible end play exists for the most free running condition.
- D. Chain dogs and anti-roll back dogs:
 1. Dogs should show no sign of bending & should move freely on their shafts.
 2. Return springs must be in place on the chain dogs.
 3. Dog shafts are replaceable and if not properly secured they may move outward. This will cause the dogs to be out of position so that they may not engage properly. Check the dimension given on drawings.

E. Shoulder restraint bars:

1. Bars should have all foam padding in place. Those with large sections missing should be replaced.
2. When unlocked, the bars should move freely up or down. The bars should stay in any position without falling.
3. When locked, the bars should move down only and resist any upward force.

F. Limit switch actuators:

1. Limit switch actuators must be in place and show no signs of bending or looseness. These are to be found at the left front wheel of the first coach and the right rear wheel of the last coach in each train.

G. Items to be checked at other than daily intervals:

1. Coach under-carriages to be checked weekly for:

- a. Carefully examine each coach under-carriage for any signs of bending or cracks adjacent to or in welds. Particular attention must be given to the axle housing and wheel carrier weldment. It is important to use a strong light when working on the chassis area, axle housing or wheel carrier.
- b. All fasteners on the chassis, axle housing and wheel carrier assembly must be in place & secure.
- c. Brake fin fasteners must be in place & secure.

2. The vertical center spindle on the front axle of each coach requires a weekly check for any sign of looseness. This can be done by rocking the body of the coach from side to side. A firm resistance to this action should be felt. The coach should not rock at all. The cause of any looseness is either a loose bearing adjustment on top of the spindle or a broken spindle. Any motion must be investigated at once and corrected.

3. The Vlier rubber springs that cushion the wheel carrier must be replaced at the start of each operating season and every six months for those parks that are on a year-round schedule. The rubber tends to get stiff with use and take on a permanent deformation. The stiffness results in a harder ride while the deformation allows the chassis to run lower and may cause some chassis to rub or scrape on top of the brake assemblies.

8. Once a year, normally during the winter shutdown, the following inspection is required:
1. Track and lifts:
 - a. Welded areas on the track including joints in the rail, tie to rail joints, tie to 12" beam and welding around the column saddle are to be inspected by magnetic particle or dye penetrant methods. Special attention should be given to high speed curves and pullout areas where the loads are the highest. If no signs of cracks are found in these areas, the slow speed spots require no more than a visual check. Track splice joints should be checked all around the pipe for small cracks starting in or adjacent to the weld. These joints should be checked over the entire course.
 - b. The lifts should be inspected in the same areas described for the track in general. In addition, the welding on the anti-roll back units and the chain guide should be subjected to magnetic particle or dye penetrant inspection.
 2. Trains: Two coaches, including the number two coach from one train, that have been used the most must be completely disassembled and subjected to a thorough inspection as follows:
 - a. Check all wheel spindles for cracks using magnetic particle or dye penetrant.
 - b. Check all wheel spindle for wear caused by rotation of bearings on shaft. If this is a problem, use bearing locking compound to lock the inner race of the inside bearing to the shaft.
 - c. The entire axle housing and wheel carrier weldments are to be subjected to a thorough magnetic particle inspection to detect any cracks that may be present.
 - d. Subject the wheel carrier spindle to a complete magnetic particle inspection.

ROLLER COASTER

Ledger - 3/12, Track Support.

Cord - 2/6, Ties Bent Posts Together.

Ties - 3/4, bolts to the Track.

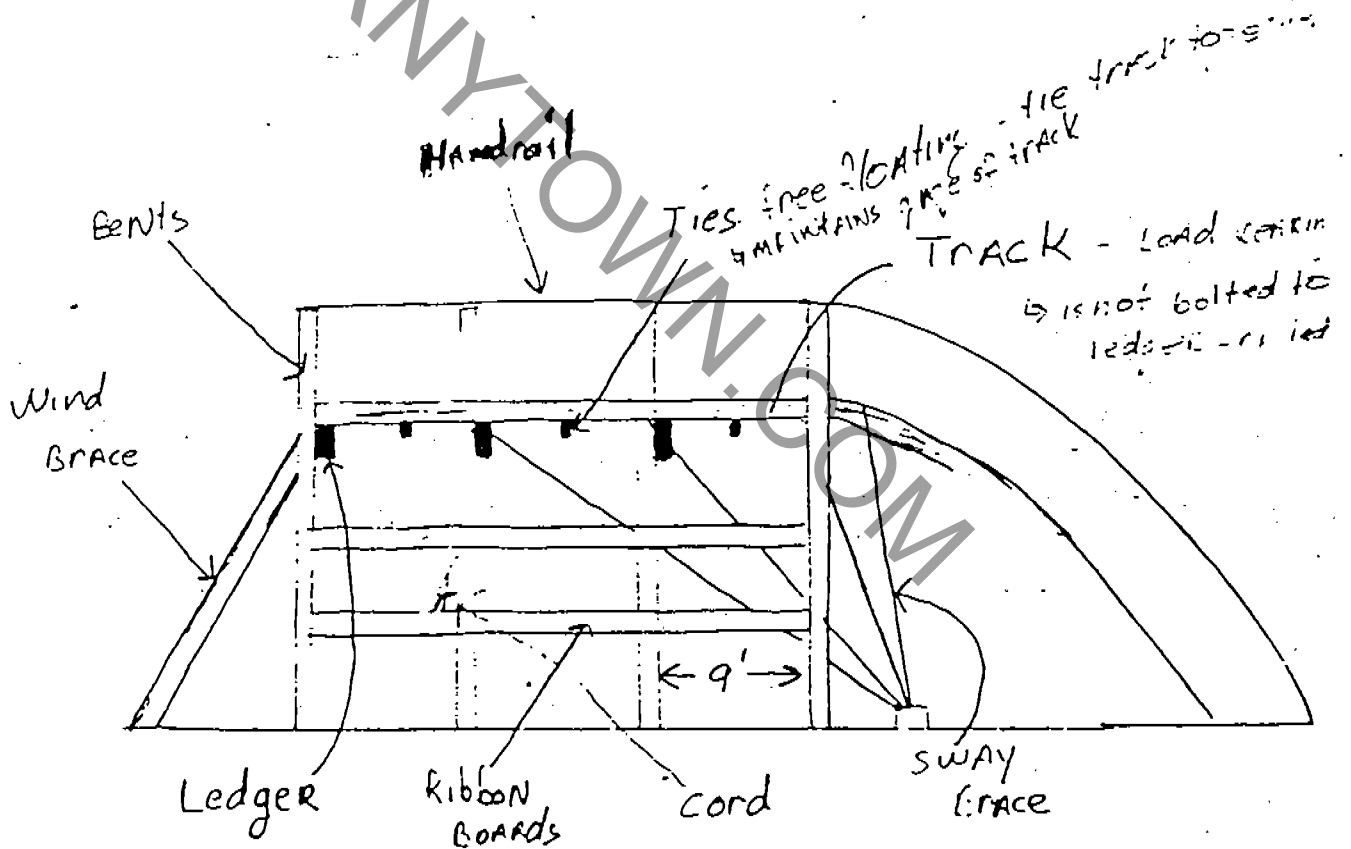
Ribbon - Goes Around, Nailed to the Bents, Up-right Posts.

Bents - Up-Right posts.

Sway-Brace

Wind-Brace - Long Proturding Braces, from top Slanted to Ground.

LAMENENT - stacks of board that track sits on



MORE TERMINOLOGY

snake, station, lift, first drop, camel backs or speed hills,

High back turn, low back turn, outside track, inside track, station ford side, unload side, que lines

Block system, transfer track, main track, out & back coaster. blue structure

double oval (see diagram) S) road model \Rightarrow no reason
why it goes (mine ride - cedar point)

