June 30, 1989

SERVICE BULLETIN 89-2

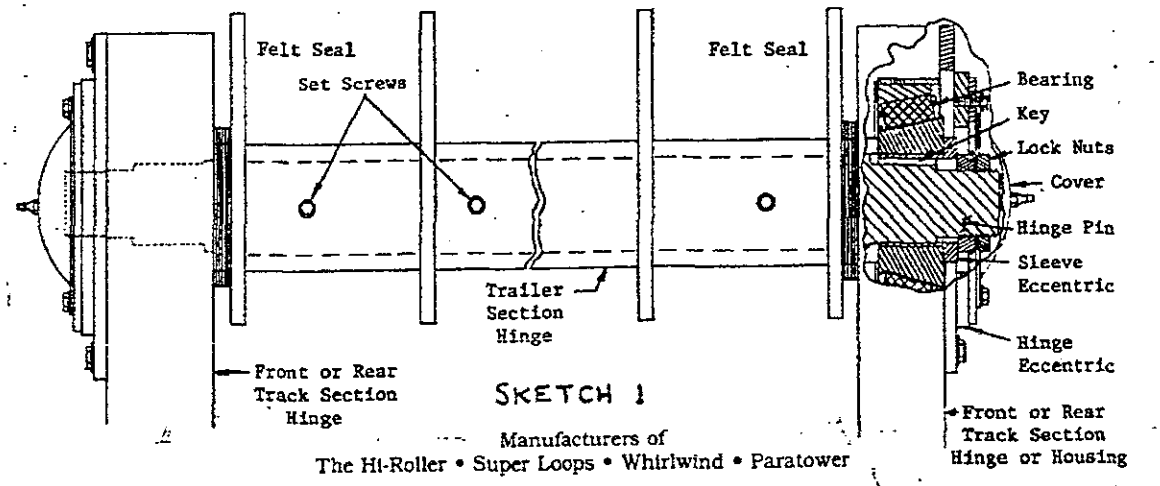
SUPER LOOPS

Fatigue cracks have been found in the hinge pins on some of the older Super Loops Amusement Rides. This fatigue could be caused by a number of factors. The two most obvious are: 1) the continual loading and unloading of the pin due to erection and lowering of the track and 2) improper support of the track during transport, allowing the hinge to take the majority of the bouncing load. With this in mind and in order to maintain a safe ride, the main hinge pins on the Super Loops must be inspected when the ride has been in operation for five (5) years and at five (5) year intervals thereafter. This inspection is to be a magnaflux inspection performed by an inspector certified in the use of magnaflux. Be sure and obtain a written copy of this inspection and keep it with your Super Loops manuals.

The ride must be in the folded or transport position to remove the hinge pin. It is necessary to support the track section at both ends to reduce the load from the pin.

CAUTION: IT IS ABSOLUTELY necessary to replace the original or a new hinge pin in exactly the same position as the original pin was installed. If this is not done properly the track will not align and a very dangerous situation will be created.

Remove the cover from each end of the hinge. See Sketch 1. Mark the position of the hinge pin, sleeve eccentric, hinge eccentric, and the hinge housings. Mark both ends and use different markings on each end so that the parts will not get mixed. A number stamp works well so that each pin and each end of each pin will have a different number. These markings must be oriented so that the parts will be replaced in the same place and direction as their original position.



SKETCH 1

Manufacturers of
The Hi-Roller • Super Loops • Whirlwind • Paratower

THE HI-ROLLER CO.

(806) 293-5214
FAX (806) 293-5215

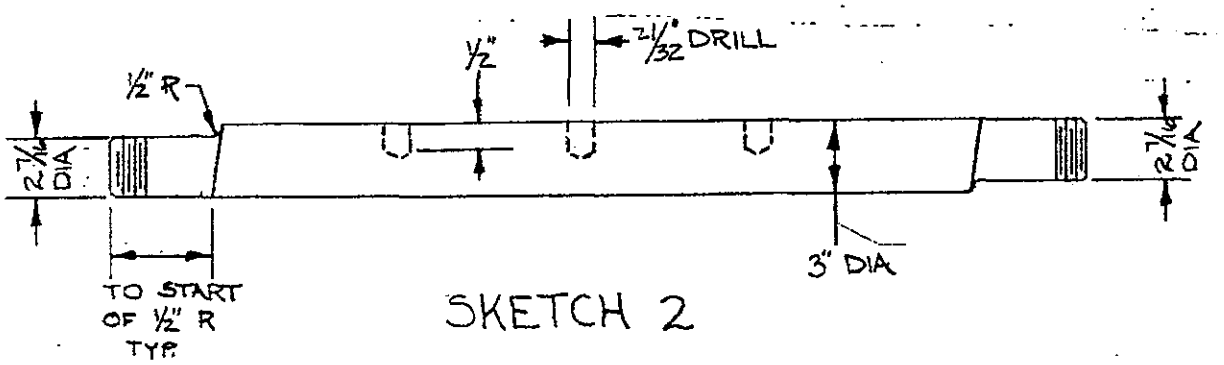
P.O. Box 1968
Plainview, TX 79073-1968

Note: Some hinge pins are not eccentric. These can be identified by looking at the pin ends. The eccentric pin will be 2 7/16 inch diameter on both ends. The concentric pin will be 2 7/16 inch diameter on one end and 3 inch diameter on the other. On the concentric pin, only the position of the hinge pin needs to be marked.

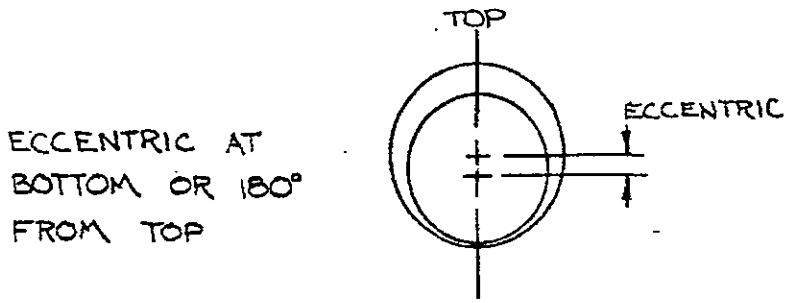
After marking the parts, remove the lock nuts on each end and the three set screws located in the trailer section hinge. Remove the hinge eccentric, sleeve eccentric, key, and bearing from each end. Note: keys are not used on concentric pins. Remove the hinge pin. Concentric hinge pins must be removed with the large end being removed first. In some cases, the pin will have to be driven out, in which case, the threads must be protected.

After the pin is removed, it must either be replaced or inspected by an inspector certified in the use of magnaflux. The primary areas of inspection are the shoulders located near each end. This shoulder is the piont where the shaft changed diameter from 2 7/16 inches to 3 inches. If there is evidence of a crack, the pin must be replaced.

To reuse a pin that has been found free of cracks, it must be remachined as shown in Sketch 2. This increases the corner radius, reducing the stress concentration of that area. Reuse of a pin without this change is not permitted.



SKETCH 2



SKETCH 3