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SAFETY ALERT

Ride Manufacturer: Eli Bridge Company Affected Production Dates: 1989 to Present
Ride Name: HY-5 II Wheels, Affected Serial Numbers: 74-89 through 89-94
Ride Names: Eagle and Double Eagle Wheels, Affected Serial Numbers: 1-89 through 32-98
Ride Names: Rim Drive Ground Model Wheels with 30 h.p. power units and hydraulic loading platforms

The mandatory items in this Bulletin do NOT apply to cable drive Wheels, ground model rim drive Wheels with brake ratchet control handles, rim drive systems with two-15h.p. power units.

Abstract of Issue #1: A customer just called to advise us of a recent incident on a Double Eagle Wheel. During normal operation, the operator pressed the brake release button, which lowers the loading platform and releases the brakes. This occurred a split second before the generator lost power. The loss of power prevented the loading platform from lowering completely, but the brakes had just released. Because the load was unbalanced and therefore moved in the direction of gravitational equilibrium, a footbottom hit the loading platform as the Wheel turned and a passenger's ankle was injured. There is only a split second when this can happen, but we now know that it can. A change is being made in the system to install a limit switch that will not allow the brake to release until the platform is down below the footbottom space.

Abstract of Issue #2: In the same conversation about the above, we also learned that our customer's brakes were not holding the load when power was lost. The customer was not aware that occasionally the brakes need to be adjusted. The brakes on HY-5 II, Eagle and Double Eagle Wheels are designed to hold a load in place, even if there is a power loss to the Wheel. The primary component provided for this safety system is the holding valve. If the valve is not adjusted at a high enough pressure level, it will fail to hold an unbalanced Wheel in place in a power loss situation. This safety system should be tested regularly to prevent the brakes from failing.

Reason for Release #1: Because the loss of power at the wrong moment can cause an incident and Eli Bridge Company has no control over the power source for its Wheels, a change in the system needs to be made to prevent a repeat occurrence of the above incident. A limit switch has been selected and tested to keep the brake from releasing until the platform is down and out of the way of the footbottom space.
Reason for Release #2. It became obvious after talking with several other customers subsequent to the above incident, they, also, were not aware of the safety feature built into the brake system, nor how to perform the brake adjustment. The unexpected release of the brake when power is lost is preventable when the system is working properly. A simple testing procedure can determine if the brake system is working properly. This procedure will show how an adjustment can be made to put the system back into compliance if it has gone out of adjustment.

Actions to be taken #1: It is necessary for a mandatory change to the ride. A limit switch needs to be ordered from Eli Bridge Company and installed on the loading platform. This will prevent the brakes from releasing until the loading platform is clear of the footbottom space when the Wheel turns. The limit switch kit will be provided free of charge if ordered within 45 days of the date of this bulletin.

Actions to be taken #2: Mandatory testing is necessary each time the Wheel is set up and once each week thereafter until the Wheel is moved again. The testing procedure is relatively simple and the instructions for adjusting the valve, when necessary, are included along with this Bulletin. If this procedure does not result in a properly working brake system, call the factory. A testing log for proper documentation is also included. Customers are urged to fill this out and keep it on file.

FROM: Eli Bridge Company
TO: All HY-5 II, Eagle and Double Eagle Customers
DATE: June 8, 1999

BRAKE: WEEKLY CHECKING PROCEDURE

It is absolutely essential that the brakes on an Eagle, Double Eagle, or HY-5 II be checked at least once a week. Brakes that are out of adjustment can be very dangerous because if they are not operating properly they may not be able to provide you with proper stopping and holding when you need it.

1. After the ride is set up and operating, stop the Wheel from turning and lock the brakes by touching the Brake button on the operator's control panel. Then cut off ALL power going to the ride. ALL electrical connections between the ride and the generator must be cut off. There is a built-in small out-of-balance load on the Wheel, so that if the brakes do not hold, the Wheel will begin to drift. Do not add extra weight to the Wheel for this first step, because if the brakes are not operating properly the Wheel might begin to turn rapidly. If the Wheel moves at all with the brakes set and with all power off, then the brake controls are out of adjustment. If the Wheel does not move, then go to step 2. If the Wheel does move, then go to step 3.

2. Turn the power back on, and put two people in each of two seats next to each other. Our testing procedure uses a 600 pound weight in one seat, but by using four large people you should be able to come close to our test weight. Turn on the Wheel and rotate it until the loaded seats are half way up at the 9 o'clock position. Stop the Wheel and set the brakes by pressing the Brake button on the operator's control panel. Then cut off ALL power going to the ride. The brakes should remain locked and not allow the loaded seats to drift downward. If the Wheel remains properly locked, then the brakes are functioning as they should. If the Wheel drifts at all, then go to the next step.

3. The holding valve may need some adjustment. These valves will be part of the power loss equipment. On some Wheels this power loss equipment, which includes a hand pump, is located on the under side of the loading platform, and on others, where a DC power unit is used, it is located on the left side of the trailer, opposite from where the operator stands. On that power loss equipment the holding valve for the brakes is the one closest to the tower.

On the power loss panel under the loading platform there are two holding valves. One is painted red and the other green. The red holding valve is the one which controls the brake operation, and the green one is for the loading platform. Using the red one, first of all be sure that the needle valve next to it is shut off completely, because any leakage through the needle valve will not allow the holding valve to hold properly. Release the jam nut on the holding valve adjusting screw, and back out the adjusting screw all the way. Then turn in the adjusting screw three complete turns. Turn on the Wheel and raise the loaded seats to the 9 o'clock position. Press the Brake button on the operator's control stand, and then cut off ALL power going to the

ride. If the brake holding valve is properly adjusted, the Wheel will not drift downward. If the Wheel moves at all, go to the next step.

4. Turn on the power and lower the loaded seats to the bottom of the Wheel. Turn in the adjusting screw on the holding valve one more complete turn. The raise the loaded seats to the 9 o'clock position, press the Brake button, and then cut off ALL power going to the ride. If the Wheel does not drift, then the holding valve is properly holding as it is supposed to do. Turn in the adjusting one more quarter turn, and then lock the jam nut to hold the adjusted position.

5. If the holding valves will not hold with four complete turns of the adjusting screw, try one more complete turn. If after five complete turns the Wheel will still continue to drift, then most likely the cartridge in the holding valve will need to be replaced. Sometimes a cartridge that has been adjusted many times will not hold the adjustment. A new cartridge when received will be properly adjusted already, so additional adjusting will not be necessary.

6. If you have gone through the adjustment procedure, including replacing the cartridge in the holding valve, and the brakes still do not hold, then call an Eli Bridge Company customer service representative.

7. As with any piece of machinery, All Big Eli Wheels need to be properly maintained at all times in order to function properly. This is certainly true for the brakes and all of the components involved in the brake operation. Watch for loose or abraded wiring and electrical shorts. Be sure that the hydraulic system is able to maintain a pressure of 1,000 pounds per square inch in the braking circuit, and check all fittings for leakage. Air in the hydraulic lines will make the braking spongy. Bleed the air out of the lines by unscrewing the fittings at the brake cylinders to let the air out. There are Belleville washers in the brake linkage, and sometimes they get broken and fall out. If this happens, call the factory for recommendations. The brake shoes will wear in a taper, and it is advisable to reverse the brake pads at the beginning of each season. When the brake pad has worn down so that the metal holder is only ¼ inch from the drive rims, then the brake pad should be replaced. If the drive rims are not lined up properly, they will break out the leading edge of the brake pad.