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Bulletin No.: 060131-1
Release Date: January 31, 2006
Effective Date January 31, 2006
Supercedes: None
Completion Date: As Necessary

SERVICE BULLETIN

Ride Manufacturer: Eli Bridge Company
Ride Names: All BIG ELI® Aluminum Wheel Seats

Affected Production Dates: All
Affected Serial Nos.: All

Abstract of Issue: Fatigue stress cracks can occur on the side of the aluminum seat at the Y-casting bolted connections due to flexing sustained over time and if left unchecked, will grow to the point of requiring seat replacement. The seat can be repaired by the method discussed below, ONLY IF the crack is small and does not allow the aluminum to actually flex in and out, opening up the crack when pressure is applied and is no longer than 3 ½".

Reason For Release: Fatigue stress cracks can occur on the side of the aluminum seat at the Y-casting (attachment to the seat pins) bolted connections due to flexing sustained over time and if left unchecked, will grow to the point of requiring seat replacement. This bulletin addresses an accepted method of repair to extend the service life of your seat, ONLY IF the cracking has not progressed to the point that the crack is opening up when flexed or is more than 3 ½ inches long. Observe the condition of the aluminum skin around the bolt holes and if a crack is visible, perform repair as soon as possible to minimize further damage.

Action to be taken: Eli Bridge has a doubler kit (Kit #326-900) available to install around the Y-casting to spread the stress out to new and undamaged metal. With the doubler kit in hand, remove the internal side seat padding to expose the Y-casting bolts. Remove the bolts and Y-casting. Drill a 1/8" hole at the end of the existing crack(s) to isolate the fracture line(s). Install the .125" doubler to the inside of the skin and the .063" doubler to the outside of the skin (between the skin and the Y-casting). Reinstall the assembly with new 3/8' x 1" long bolts, star lock washers and nuts.

Drill out rivet holes with a #20 drill bit and install #56 pop rivets to complete the sandwich connection of the doublers. If the outside doubler plate interferes with the hair guard bracket, field trim to suit. The addition of the doubler causes the side seat padding not to lay flat against the side of the seat, so the seat pad should be relieved by routing out just enough of the back side to allow it to do so. If you fail to get the padding flush with the side of the seat, when you reinstall the handlebar hardware, it will not fit properly. Reinstall all padding assembly and hardware on side of the seat.

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Bulletin No.: 060131-2
Release Date: January 31, 2006
Effective Date January 31, 2006
Supercedes: None
Completion Date: March 1, 2006

NOTIFICATION

Ride Manufacturer: Eli Bridge Company
Ride Names: All BIG ELI® Rides

Affected Production Dates: All
Affected Serial Nos: All

Abstract of Issue: Since it has been several decades since some of our Manuals have been revised, Eli Bridge Company wants to keep all customers informed of any and all height requirements, especially if there has been a change due to children's average height being taller at a younger age.

Reason for Release: Due to children's increased height at a younger age without a parallel increase in mental development, some height requirements have been re-evaluated and changed to reflect the anthropomorphic changes in today's youth. These height requirements have been communicated at numerous Safety Seminars, in new Manuals, and in written and verbal form to many owners. We feel it prudent to notify all known Wheel and Scrambler® owners of the current height requirements and require that all Eli rides comply with them.

Action to be taken:

Eli Bridge Company Height Requirement for Scramblers and BIG ELI Wheels:
"All children 48" and under must be accompanied by a responsible adult. No children under 36" may ride unless seat belts have been installed.

"No Single Riders" Recommendation:
Eli Bridge Company recommends that where possible, single riders should be avoided. Eli realizes that asking patrons to ride with individuals unknown to them is not always appropriate or practical. In such cases, it is incumbent upon the operator to use extra care in watching the patrons to see that no misbehavior (such as moving around, attempting to get up out of the seated position, moving sideways in the seat or rocking the seat, etc.) is allowed. BIG ELI Scramblers and Wheels in which seat belts have been installed are exempted from the single rider recommendation."

Eli Bridge Company Height Requirement for the Little Eli Wheel, Swing or Little Scrambler:
The minimum height requirement is 36" and the maximum height limit is 48".

Eli Bridge Company Height Requirement for the Construction Zone:
The minimum height requirement for the Construction Zone is 36".

Eli Bridge Company Height Requirement for the SpiderMania:
The minimum height requirement for the SpiderMania is 36" the maximum limit is 68" and 200 pounds.

Eli Bridge Company has SEAT BELTS available for BIG ELI Wheels and Scramblers®. While at this time seat belts are not mandatory, Eli Bridge Company strongly recommends their use.
For more information call us at 217-245-7145, or contact us by email at EliBridge@aol.com.

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Bulletin No.: 060131-3
Release Date: January 31, 2006
Effective Date January 31, 2006
Supercedes: None
Completion Date: As desired

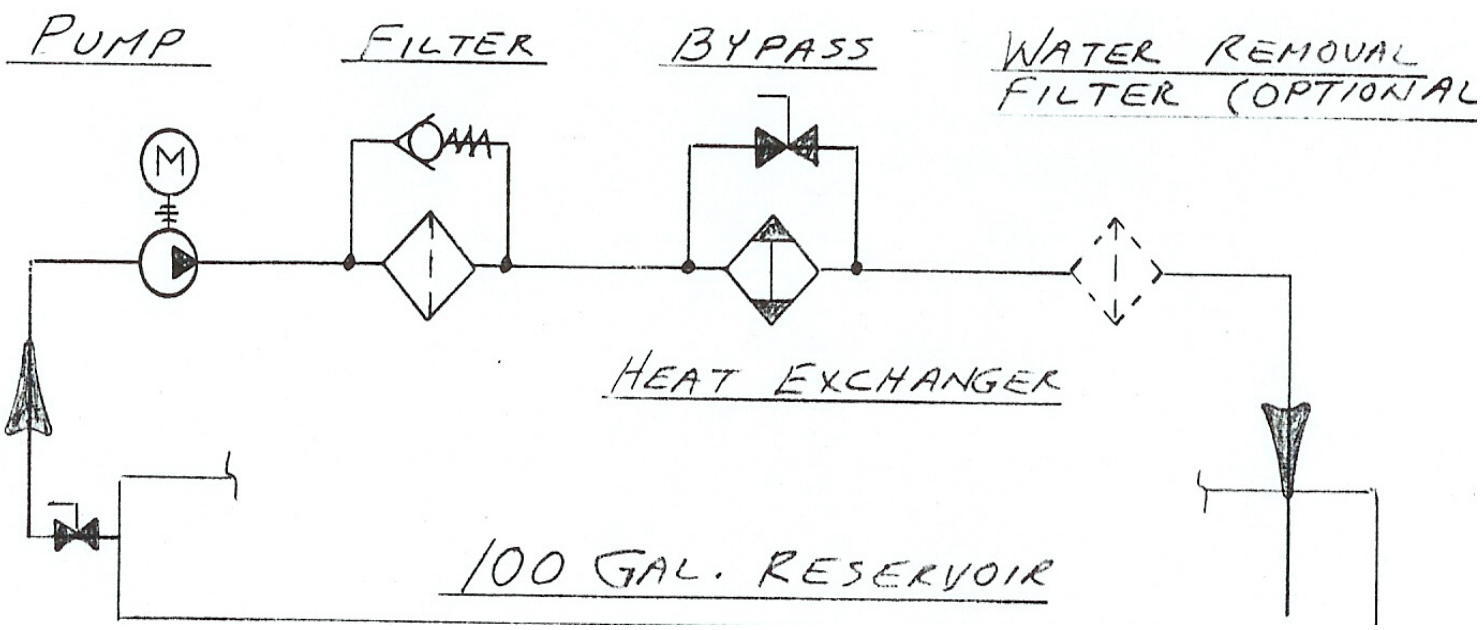
NOTIFICATION

Ride Manufacturer: Eli Bridge Company Affected Production Dates: Any Affected Serial Nos: Any
Ride Names: BIG ELI® Eagles and Aristocrat Hydraulic Rim-Drive Wheels with Hydraulic Pumps

Abstract of Issue: Due to various factors which include loading, high ambient summer heat, duration of operation, and efficiency of hydraulic components available several years ago, some hydraulic driven Wheels have experienced excessive oil temperatures. Therefore, Eli Bridge has developed a hydraulic oil cooling and continuous filtration system to add to your reservoir for long term protection.

Reason For Release: To insure the best component life and long term reliability, the system oil should be maintained to proper temperature (about 140 degree maximum) and cleanliness (40-micron minimum, 10-micron preferable). The easiest and least expensive way to accomplish this is to install a filtration-cooling loop across the reservoir. This consists of a gear pump, filter assembly, and an oil to air cooler arranged to constantly cool and filter the reservoir oil. The cooler has a bypass valve to allow filtering the oil without removing heat on cooler days.

Action to be taken: If your Eli Bridge Wheel has experienced overheating, install Eli Bridge Company's filter/cooler package on your hydraulic reservoir. The system schematic is shown below. The reservoir is approximately 100-gallon capacity, therefore the oil is filtered and cooled continuously and turned over about every 4 minutes. For high condensation problems, a water removal filter can also be installed in the loop.



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Bulletin No.: 060131-4
Release Date: January 31, 2006
Effective Date: January 31, 2006
Supercedes: Mfr. Original recommendations
Completion Date: Before Operating

NOTIFICATION

Ride Manufacturer: Eli Bridge Company **Affected Production Dates:** N/A
Ride Names: BIG ELI® Electric Rim-Drive Wheels
Affected Serial Nos: 33-00, 34-00, 35-01, 36-02, 37-02, 1034-56RD00, 1081-59RD04, 851-49RD04

Abstract of Issue: Filling the oil level in the gear reducers, upper and lower of both sides, to "Full" was the original recommendation of the manufacturer. However, for the application on BIG ELI Wheels, where the ambient outside temperature added more heat than expected from operation alone, the oil tended to build up more than expected pressure because of expansion from heat.

Reason For Release: After consulting with the gear reducer supplier, it has been determined that the oil level should be filled 95% to allow for expansion. This suggestion has been taken into consideration and is being passed to all electric rim-drive Wheel owners.

Action to be taken: To check the oil level in the reducer, insert a piece of stiff material, such as a dipstick, and measure the distance from the oil to the top of the reducer box. The oil level should measure between ½" and 1" from the top. If the oil is too high, then remove the excess oil to ensure the proper level. Keep in mind that these instructions supercede the original manufacturer's instructions.

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Bulletin No.: 060131-5
Release Date: January 31, 2006
Effective Date January 31, 2006
Supercedes: None
Completion Date: as desired

NOTIFICATION

Ride Manufacturer: Eli Bridge Company

Affected Production Dates: Any

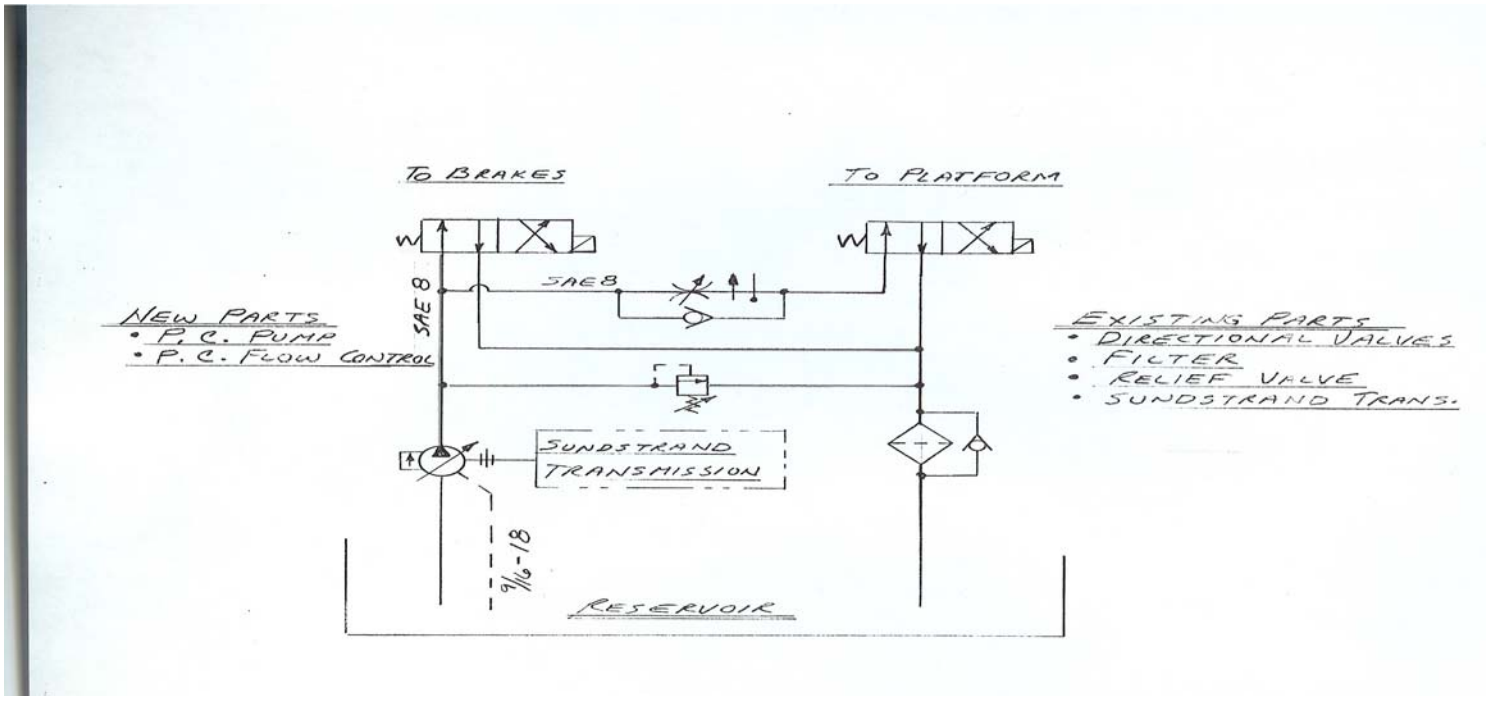
Ride Names: BIG ELI® Eagle and Aristocrat Hydraulic Rim-Drive Wheels

Affected Serial Nos: Any

Abstract of Issue: The hydraulic rim-drive Wheels were designed around available components of the 70's through 90's which were functional but not necessarily as efficient as modern day hydraulic components. Safety was and still is a primary concern. The present brake and platform circuits create heat, which on a hot day can be excessive for the system to absorb. Too much heat can be detrimental to the long-term function of the hydraulic components. Eli Bridge Company has developed a more energy efficient circuit upgrade for the brake/ platform functions.

Reason For Release: The present circuit design for the hydraulic brakes and platform are inefficient using more parts than necessary and presently creating most of the heat load in the circuit. These systems are very important safety issues of the ride and must function flawlessly. There are several ways of reducing the heat generated in these circuits but brake pressure must be held at all times. Therefore the best circuit revision will be to replace the existing brake gear pump with a pressure compensated pump used for the brake and platform circuit. By limiting the flow to the platform cylinder to less than full pump flow, we maintain constant brake pressure. The heat generated by this circuit is about 1/4 of the present heat load. Another major benefit to this revision is the elimination of the separate power unit for the platform circuit. The new pump is driven off the main 30 HP drive which now will be the only power unit required for the Aristocrat. The Eagle has a separate power unit for setup, which could be eliminated by using oil from the new pump, but because the required pressures are so different, it is advisable to maintain the setup circuit as is and shut this unit off after setup.

Action to be taken: Replace the auxiliary brake gear pump with the new pressure compensated pump, remove the separate platform pump and motor, and tie these two circuits together as proposed by the Eli Bridge Co. circuit upgrade.



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Bulletin No.: 060131-6
Release Date: January 31, 2006
Effective Date January 31, 2006
Supercedes: None
Completion Date: As desired
Page 1 of 1

NOTIFICATION

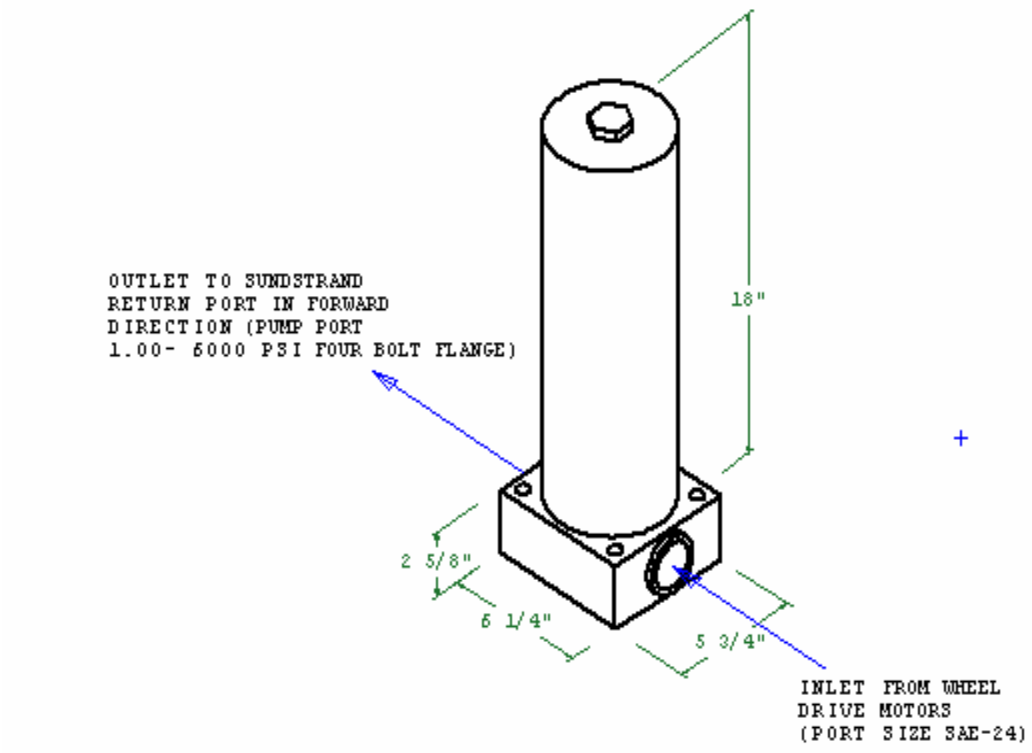
Ride Manufacturer: Eli Bridge Company
Ride Names: BIG ELI® Eagle/ Aristocrat Hydraulic Rim-Drive Wheels.

Affected Production Dates: Any
Affected Serial Nos: Any

Abstract of Issue: New Option for prolonging the life of Sundstrand Hydrostatic transmissions is available for BIG ELI® Eagles and Hydraulic Rim Drive Aristocrat Wheels.

Reason for Release: The hydrostatic transmission (The Sundstrand #90L100) unit is the most important and expensive part of the hydraulic drive system. **To prolong the life of the unit**, a pressure filter in the closed loop circuit can now protect it. The Wheel drives forward about 80% of the time so the most cost effective and beneficial location of a filter would be on the return side of the closed loop in the forward mode. Eli Bridge Company offers a filter upgrade unit that can be installed between the return line of the wheel drive motors and the transmission "B" port.

Action to be taken: Install a pressure filter designed for hydrostatic transmission use on the return side of the closed loop in the forward mode to insure long and trouble free service for the owner. This will filter all oil before it returns to the transmission while running in the forward direction and through a reverse free flow check valve when running in reverse. The filter element is a 10-micron unit capable of holding a large capacity of 108 grams dirt. The housing has a pointer indicator to show the condition of the filter. Port size will be SAE-24 straight threads for O-ring seals for the most leak free installation. Call the factory for pricing and availability.



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Bulletin No.: 060131-7
Release Date: January 31, 2006
Effective Date January 31, 2006
Supercedes: None
Completion Date: April 1, 2006

SAFETY ALERT

Ride Manufacturer: Eli Bridge Company **Affected Production Dates**: All **Affected Serial Nos**: All
Ride Names: BIG ELI Scramblers®, especially those powered by Gasoline Engines

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Abstract of Issue: Scramblers® were originally run with Allis Chalmers Gasoline Engines. At the point where Eli Bridge Company found out that many owners were disconnecting the governors and speeding the Scramblers® over the recommended maximum 11 rpms, all owners were notified that this was not to be done because of the danger involved. More recently, electric motors have been placed in service on Scramblers®. The maximum rpms on electric motor-powered Scramblers® is 11.4 rpms.

When the Scrambler's® speed is faster than the recommended maximum, the G-forces increase dramatically compared to the rpms. This not only puts the patrons' health in danger, but causes greater stresses to the aluminum seats which could cause a catastrophic failure during a ride. Aluminum, by its very nature has a fatigue life and once the fatigue starts, ultimate failure will be the result. Overspeeding exceeds the design parameters of the Scrambler® parts and structure, but the seats are the most vulnerable. (For more information refer to page J-1 of your Manual for *Erecting, Operating and Servicing the Big Eli Scrambler®*.)

Reason For Release: Many Scramblers® have been operating for up to 50 years or more. Even though owners with gasoline engines were warned years ago against over speeding, we have received information indicating that there are still some in operation doing this. Although we have not been made aware of any electric motors running Scrambler® over 11.4 rpms, this bulletin serves notice to all Scrambler owners that exceeding the recommended rpm's should not be tolerated. Because no two Scramblers® have had the same number of cycles at the same rpms or with the same loads, there is no way to accurately predict when the aluminum will fail as a general guideline. But seats on Scramblers®, which have consistently exceeded the recommended speed, are considered to be at greatest risk.

Actions to be taken:

1) Check the RPM level at which your Scrambler® is being run. If it is being run over 11 rpms for gasoline or 11.4 rpms for electric, it should immediately be shut down and modified to prevent this from happening.
2) If the Scrambler® has been run at speeds over the 11 rpms for gasoline or 11.4 rpms for electric, regularly, the seats should be replaced immediately.
3) All Scramblers®, especially those found to be exceeding the recommended rpm's, should be carefully checked for cracks and connection wear exceeding tolerances.

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Bulletin No.: 060131-8
Release Date: January 31, 2006
Effective Date January 31, 2006
Supercedes: None
Completion Date: March 31, 2006

SAFETY ALERT

Ride Manufacturer: Eli Bridge Company **Affected Production Dates**: All **Affected Serial Nos**: All
Ride Names: Seats on the Scrambler®, Trailer-Mounted Scrambler (TMS), Retro-Fitted Scrambler (RS)

Abstract of Issue: The Seats on a BIG ELI SCRAMBLER®, TMS®, or RS (28' Trailer-Mounted SCRAMBLER®) are designed for a passenger who remains properly seated, to be able to enjoy the ride without being ejected by the forces developed by the motion of the ride. "Properly seated" means that the passenger must sit on the seat with their back against the seat back, their bottom on the seat cushion, their legs in the forward position and their feet, if they reach, on the floor. The "lapbar" was designed and installed in Scrambler seats to help remind and restrain passengers to stay in the seated position during the ride. Seat belts have also been available for Scrambler seats for many years and a number of operations use them. For the past six or seven years Eli Bridge Company has recommended "No Single Riders" in Scrambler seats, and "unless seat belts have been installed" has been added after customers who use them report improved rider behavior with seat belts.

Reason For Release: An accident occurred where a young girl over the 48" minimum height requirement, was riding alone in a Scrambler seat in a building where it has not been determined whether the operator could see the passengers at all times. The girl had a friend riding in another seat and even though the seat had the warning about remaining seated, she chose to turn around, get up and wave to her friend during the ride. Because she had gotten her center of gravity over the top of the seat, the accelerations of the ride forced her out of the seat into the path of the moving ride. The tragic result was death.

Actions to be taken:

1) Be sure your Scrambler operators can see the passengers at all times before, during and after the ride.
2) Have all operators read the complete OPERATION section of your Scrambler Manual. In part, it says: "Passengers must not be allowed to misbehave. Vigilance on the part of the operator can prevent accidents. The operator must watch the ride at all times, and refuse rides to any person who, in his opinion, might be in danger. The operator must not become careless, because the Scrambler is a fast ride which involves high accelerations and decelerations, and any person leaving his seat when the ride is in motion is almost certain to be severely injured."
3) Stop the Scrambler immediately if a patron(s) misbehaves and remove the patron(s) from the ride. Misbehavior includes but is not limited to: a) Turning around (sideways or backwards) in the seat, b) kneeling in the seat, c) standing up in the seat, d) putting feet or legs outside the seat or on top of the footbottom, e) Any movement in the seat that allows the passenger's back or bottom to break contact with the seat back and the bottom cushion of the seat while the ride is operating.
4) Do not let that patron on the ride again if the patron leaves the "Properly Seated" position during the ride. The operator must adhere to a Zero Tolerance Policy (No second warnings/immediate removal of misbehaving riders) because they are a danger to themselves and may be to others.
5) Add information to Scrambler signage stating: STAY SEATED AT ALL TIMES.
6) Add to weekly inspection list: Check that the warning signs inside the handlebar of all Scrambler seats are clearly legible and in good repair.
7) Eli recommends that seat belts be installed on Scrambler seats.
8) Adopt a "No Single Riders" policy for the Scrambler, unless seat belts have been installed. Note: Installing seat belts does NOT prohibit a "No Single Riders" policy.

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Bulletin No.: 060131-9
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Supercedes: None
Completion Date: March 31, 2006

SERVICE BULLETIN

Ride Manufacturer: Eli Bridge Company **Affected Production** Dates: All **Affected Serial Nos**: All
Ride Names: Scrambler®, Trailer-Mounted Scrambler (TMS), Retro-Fitted Scrambler® (RS)

Abstract of Issue: It has been brought to our attention that weld cracking has occurred on the bottom side of the stationary center base. The cracking has occurred at the weld connection of the center pole and the base. The weld is located between two very rigid structures, the base and the center pole. The out-of-balance forces on these structures can, over the years, allow cracking around the weld.

Another factor contributing to the cracking deals with the tapered roller bearings. The Scrambler® uses two of these bearings, per sweep, at the top and bottom of the stationary center pole. It is the nature of tapered roller bearings, when used in pairs, that the normal radial loads produce thrust loads that want to push the two bearings away from each other. Thrust is created by the top bearing against the plate bolted to the top of the stationary center pole. This produces a force acting to pull the stationary center pole out of the stationary base. The interference fit between the base and the center pole, along with the weld, resists this force. Thus, creating cracking in the weld. Separation between the two bearings shall occur if the center pole is uprooted from the base. This may be indicated by swaying of the center pole. Eventually, the swaying will allow the seats to strike the bottom sweeps while the ride is in motion if not corrected.

Reason For Release: This is not a new issue for Scramblers® and there was a previous letter about this many years ago. However, Eli has received an increasing number of phone calls regarding Scrambler bases and the median age of Scramblers in operation is approximately 35 years, so it was decided to distribute the information again in a Bulletin.

Action to be taken: The Scrambler® should be inspected at the arrival of this bulletin unless it has already been inspected to the following schedule. Furthermore, we believe that it would be reasonable to re-inspect the Scrambler® center pole and take action according to the following guidelines:

A. If the ride has been inspected and no crack is found, then the ride should be re-inspected as follows: Portable models should be re-inspected every setup. Park model bases should be visually re-inspected at least every five years. During the interim, park model bases should be inspected to verify the distance between each of the bottom sweeps and the top of the catwalk is relatively equidistant, approximately 3.5", at least every five months or more if the operating season exceeds five months.
B. If a crack is found and the crack extends no more than 1/3 of the way around, and it is then ground out and re-welded by a certified welder (call Eli for approved procedures), then it should be re-inspected in five years.
C. If the center pole has been returned to the factory for repair, the next re-inspection should be within five years from the date of the repair, then according to "A" above thereafter.

Based on our experience with the Scrambler® we believe that these are conservative procedures. We have tried to keep the inspections as far apart as we believe prudent, while also keeping them close enough to give the ride the protection it needs to operate in a safe manner.

For additional information not found in this bulletin or consultation about your Scrambler®, please contact Eli Bridge Company at the phone number or email listed above.

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Bulletin No.: 060131-10
Release Date: January 31,2006
Effective Date January 31,2006
Supercedes: None
Completion Date: As needed

SERVICE BULLETIN

Ride Manufacturer: Eli Bridge Company **Affected Production Dates**: All **Affected Serial Nos**: All
Ride Names: Scrambler®, Trailer Mounted Scrambler (TMS), Retro-Fitted Scrambler (RS)

Abstract of Issue: Pin-holes becoming ovaled and oversized is a problem on older rides due to wear or misalignment of pins driven into the holes. Once the holes are worn, the condition will rapidly become worse due to cyclic loading and peening of the parts. The hole wear can be in all structural connections such as seat tabs, seat sweep, either end of the upper or lower sweep or the tie rods.

Reason for Release: This is not a new issue, but Eli has experienced an increase of phone calls with questions regarding pin and pinhole wear. If the problem is not resolved, then the rate of wear increases and results in unsafe operating conditions. Pin wear can allow the entire ride to "sag" and can possibly allow the seat step to come into contact with the bottom sweep. This contact will result in catastrophic consequences such as patron injury or death not to mention damage to the equipment.

Action to be taken: If the pin diameter has worn 1/32" or more, then the pin must be replaced with a new pin unless the pinhole had similar wear. If the pinhole has worn 1/32" over, at widest point, then the hole must be oversized and the next larger size assembly pin used or oversized and bushed back to the original 1". Eli Bridge Company has oversized pins available and a line reamer rental program to allow the owners to bring the worn holes back to factory tolerances. There are also bushings available to rebuild the holes after reaming past maximum oversized pin sizes. The corrective action is to line ream the worn holes to the next available oversize diameter and install new oversize pins to match. The original diameter of the assembly pin is one inch. Oversize pin diameters are 1 1/16" and 1 1/8" and are marked with one groove in the head for 1 1/16" and two grooves for 1 1/8" diameter. After this, Eli Bridge Company has 1-1/4" OD/ 1" ID cylindrical bushings available that are to be silver soldered into the single tab holes after reaming to 1 1/4" diameter. The double tab locations have a flanged bushing design and these are welded around the flange to the double tab

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For additional information not found in this bulletin, please review your Scrambler Manual. For consultation about your SCRAMBLER®, please contact Eli Bridge Company at the phone number or email listed above.

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Bulletin No.: 060131-11
Release Date: January 31, 2006
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Supercedes: None
Completion Date: AS Needed

SERVICE BULLETIN

Ride Manufacturer: Eli Bridge Company **Affected Production Dates**: All **Affected Serial Nos**: All

Ride Names: Scrambler®, Trailer-Mounted Scrambler (TMS), Retro-Fitted Scrambler (RS)

Abstract of Issue: Scrambler Seat Repair- Acceptable Blind Fasteners/ Rivets.
It has come to our attention that
1) Some Scrambler seats are regularly being run with loose or missing rivets and
2) Occasionally when seat repairs are being done, it is difficult to find a Huck Rivet Gun to replace Huck Rivets.

The seat design is similar to an aircraft wing design utilizing inner ribs with bent flanges riveted to outer aluminum skins. The strength is therefore an overall integral unit assembly. If rivets are missing or loose, forces cannot be transmitted properly throughout the assembly to spread the loads. And, if several rivets in a row are missing or loose, the rivets on each side may also become damaged due to the "sawing" action of the skins moving against the rivet shafts. When seats are allowed to operate under these circumstances, the remaining structure is flexing and straining, which results in structural fatigue of the skins and the rivets.

Reason for Release: 1) BIG ELI Scrambler Seats should not be operated if rivets are missing or loose, and 2) To address acceptable rivet fasteners for use on Eli Bridge Co. Scrambler seats.

Action to be taken: In the assembly of the scrambler seat, the main rivet used is a 5/32" (#56) aluminum pop rivet installed in a hole which has been made with a #20 drill of .1610" diameter. Loose rivets should be drilled out, then look through the hole to see the position of the rib flange. If it is in close position to the skin, then a new aluminum pop rivet of appropriate gauge and length can be used to clamp the assembly tight again. Note that in some places there may be more than 2 layers of aluminum or different thickness. The skin is .040" thick so be sure to use an appropriate gauge rivet. Do not use steel/steel or aluminum/steel pop rivets due to rusting and therefore corroding the aluminum skin. Only reuse existing holes, do not drill new holes in the flange. Use an awl or ice pick to align holes if necessary.

Also note that in some corners, a 3/16" all aluminum huck rivet is used. Since these rivets require a special swagger to install, which can often be unavailable, an all stainless steel pop rivet of appropriate gauge can be used. The stainless steel will not rust and has superior grip and sheer strength than the aluminum. The proper drill size for this replacement is a #11 or .1910" diameter. These are the points of higher stress that need to be handled properly. All seats shall be inspected weekly for portable rides and monthly for stationary rides.

If three or more rivets in a row are missing or loose, replace the three rivets on each side of the missing rivets to maintain the integrity of the design because typically these will be become exceeding worn as well.

For additional information not found in this bulletin or consultation about your SCRAMBLER® seats, please contact Eli Bridge Company at the phone number or email listed above.

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Bulletin No.: 060131-12
Release Date: January 31,2006
Effective Date: January 31, 2006
Supercedes: None
Completion Date: April 1, 2006

SERVICE BULLETIN

Ride Manufacturer: Eli Bridge Company **Affected Production Dates**: All **Affected Serial Nos**: All

Ride Names: Scrambler®, Trailer-Mounted Scrambler (TMS), Retro-Fitted Scrambler (RS)

Abstract of Issue: The cushions used for the SCRAMBLER® seats are specifically designed for safety, proper ergonomics and balance of the seat. We understand that these cushions wear and will eventually need to be replaced. It is imperative that the replacement cushions have the same height dimensions, 6.50" front and sloping rearward, as the Manufacturer's original cushions. Replacement cushions that are higher than original cushions will raise the center of gravity of the patron, which can result in injury or death to a patron, if ejected from the seat. Also, a higher cushion will minimize or eliminate the clearance between the patron's legs and the lap bar, thus, creating uncomfortable riding positions for the patrons and restricting the function of the lap bar.

Replacement cushions that are lower than original cushions will allow too much room between the lapbar and the smaller patron's legs and can render the lapbar useless as a restraint. Additionally, replacement cushions that are higher or lower than original cushions will result in strain on the seat structure and may result in rapid seat wear or failure.

Reason For Release: Scrambler seat cushions need to be inspected regularly and then properly repaired or replaced with a proper seat cushion replacement. Failing to replace the non-conforming cushions jeopardizes the safety and comfort of the patrons.

Action to be taken: Add cushion inspection to your regular Inspection Log (Included in this packet). If your current Scrambler® has cushions that do not replicate the height dimensions and follow the front to back sloped design of the original cushions, then they must be repaired or replaced with acceptable cushions.

On Naugahyde cushions: Check the wooden frame for decay or disintegration, rebuild, if necessary. Check the padding height once the wood is in proper repair, you may need to add firm padding to older cushions to build up the height before replacing with a new covering to bring it back to the proper height. You can always send them back to the factory to be refurbished, too.

New Urethane foam molded cushions are also available from Eli which will reduce the amount of time and money you spend on repair and replacement of your cushions.

For additional information not found in this bulletin or consultation about your Scrambler® seats, please contact Eli Bridge Company at the phone number or email listed above.

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Completion Date: Various

SERVICE BULLETIN

Ride Manufacturer: Eli Bridge Company **Affected Production Dates**: All **Affected Serial Nos.:** All
Ride Names: Seats on the Scrambler®, Trailer-Mounted Scrambler® (TMS), Retro-Fitted Scrambler® (RS)

Abstract of Issue: Seats on a BIG ELI SCRAMBLER®, TMS®, or RS are constructed with the intent of longevity and durability. They are designed like an aircraft wing to be strong, but light. However, they must be properly handled and maintained to retain the integrity of the design. When inspecting seats, the inspector would do well to imagine flying in a plane with a wing that is in the same condition as the seats being inspected – would the aircraft wing pass inspection? If not, the seat should not pass either.

The SCRAMBLER® seat depends on the two "skins", the three flanged ribs and the "box" on the seat back to give the seat it's structural integrity. There is NO additional frame inside to strengthen the seat. The rib flanges, to which the inside and outside skins are riveted, develop the major strength of the seat. Damage may begin to appear in the seats of a SCRAMBLER® over time from wear, abuse and/or fatigue. There are different levels or types of damage. They are: Minor Damage, Moderate Damage, Extensive Damage or Fastener Issues/Damage which includes Flaking Aluminum Tabs and Missing or Loose Rivets and Bolts.

Reason For Release: Many seats have been sent in to the factory or observed by Eli Bridge Company personnel in operation with missing rivets, loose rivets, with minor, moderate and extensive skin and rib damage and/or which were improperly repaired. Also, personnel have observed non-conforming or missing cushions, and flaking on aluminum tabs. We have also observed that some seats appear only slightly damaged on the outside, but when they are opened up to replace a rib or skins, for instance, the inside of the seat has much more serious damage. This includes extra holes in the flanges even becoming slots, severe corrosion, debris wearing out the inside of the metal and rivets, etc. The extra holes occur when the person repairing the seat does not match up the new holes in the skin to the original holes in the flange.

(a) Minor Damage consists of a non-invasive dent, such as a small dent in the skin that is not in the area of a rib connection. It also includes an improper patch covering a small hole in the inside skin or the outside skin which has no cracks emanating from it. This type of damage should have a time limit to be repaired of before the next season starts.

(b) Moderate Damage consists of one or two structural issues, such as a cracked rib or a small hole underneath the seat cushion. These need to be repaired as soon as the parts can be ordered in, at the most, within 30 days.

(c) Extensive Damage consists of major structural damage to any three or more of the five major components of a Scrambler® seat. The five major components of a seat are the back (including the back rib), the inside rib, the front rib, the inside skin and the outside skin. For example, damage to two of the three ribs and a skin (or more), or 2 skins and a rib (or more) is considered extensive damage. This amount of damage is generally cause for replacement. This is because most of the 4,000+ fasteners need to be drilled out to remove the damaged parts. This leaves essentially no structure to start putting the seat back together. Also, all the 4,000+ fasteners then need to be replaced with new ones. Few shops have all the necessary tools and fixtures for this type of repair and the cost of the parts and labor can be more than the cost of a new seat shell. Extensive damage should be fixed immediately, before the seat carries any more passengers.

(d) Fastener Issues/Damage include missing rivets, loose or corroded rivets and flaking aluminum seat tabs. If your Scrambler seats have any of these issues, the fasteners must be replaced (i.e. replace the rivets with the proper size and type of rivet, replace the tabs with steel tabs) before operating that seat.

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SERVICE BULLETIN

Ride Manufacturer: Eli Bridge Company **Affected Production Dates**: All **Affected Serial Nos**: All
Ride Names: SCRAMBLER®, Trailer-Mounted SCRAMBLER® (TMS®), Retro-Fitted SCRAMBLER® (RS)

(Cont.)

Action to be taken: 1) All Scrambler® seats should be thoroughly inspected immediately. Begin with the information in your ***Operation and Maintenance of BIG ELI Scrambler® Manual*** in the section on "SEATS" pages 69 through 91 of the 2/73 edition. You should also review your ***"Instructions for Erecting, Operating and Servicing the BIG ELI Scrambler®"*** manual for all the references to the seats. Immediate thorough inspection (then follow the Scrambler Seat Inspection log included, thereafter) of all BIG ELI Scrambler® seats to include the following:

- All fasteners, including rivets, must be properly installed: original size, in original holes, no looseness allowed, and must be straight. Also See Bulletin #060131-13 released January 31,2006.
- Handlebars must latch properly, without having to lift up the bar to attach.
- The Lapbar must be installed and in proper working condition.
- The WARNING decal must be installed and in good condition and clearly legible.
- The secondary latch must be installed and in proper working order.
- Rubber bumpers must all be properly installed.
- Ribs must be free of cracks, especially inspect around the hinge points.
- Ribs must be free of damage (deformation not allowed) at the flange area, where they are riveted to the inside and outside skins.
- Skins must be free of cracks, holes (other than for fasteners), and deformations.
- No corrosion, especially around the riveted areas.
- The steps must be free from cracks, properly fastened and have the complete step surface, including the 90 degree bend at the bottom, covered in non-skid material.
- Cushions on the SCRAMBLER® seat and the side to the right of the patron must be the proper size and in good condition. The seat back is not required to have a cushion but must at least have a vinyl covering, not bare aluminum.
- The stepping surface of the footbottom must have a secondary reinforcement properly installed and in good working condition, i.e. a 13" X 36" wooden board or piece of treadplate (no sharp corners or splinters on either).

2) The damaged part must be properly repaired or replaced.

- Minimally damaged areas on the inside and outside skins can be repaired using standard repair patches and rivets (with instructions) available from Eli Bridge Co.
- Damaged or worn parts such as rubber bumpers, nyliner bushings, decals, etc. must be ordered and replaced.
- Cracked or broken ribs must be replaced.
- We believe that field repairs to SCRAMBLER® seat ribs should not be attempted. The factory should be consulted before repairs of this nature are attempted. Have a digital picture ready to email to elibridge@aol.com before the consultation.
- If it is determined that the seat(s) is in need of "skin" repair, contact Eli Bridge Company to arrange for seat analysis. If a conclusion is reached that the seat(s) can be field repaired then the repair kit and procedure can be furnished. If the seat is beyond field repair, then the seat(s) will need to be returned to the factory for repair.

SCRAMBLER SEAT INSPECTION LOG Date:_____

This log is a basis for inspection and not intended to be all-inclusive. It is imperative that you read your ***Operation and Maintenance of BIG ELI Scrambler® Manual*** in the section on "SEATS" pages 69 through 91 of the 2/73 edition and your ***"Instructions for Erecting, Operating and Servicing the BIG ELI Scrambler®"*** manual for additional pertinent information. If you notice any unusual wear, add to this list to watch. Also see your corp. inspection requirements and add them in, as well.

Inspect according to the following Inspection items and frequency, at a minimum. Initial each and note corrective action, if any action is necessary.	Daily	Daily	Daily	Daily	Daily	Daily	Daily	Weekly	Monthly	Initial	Notes, comments and/or corrective action.
All fasteners, including rivets, must be properly installed: original size, in original holes, no looseness allowed, and must be straight.											
All fasteners must be free of corrosion, deformation or visible wear.											
Handlebars must latch properly, without having to lift up the bar to attach.											
The Lapbar must be installed and in proper working condition.											
The WARNING decal must be installed and in clearly legible condition.											
The secondary latch must be installed and in proper working order.											
Rubber bumpers must all be properly installed and free from being overly worn (rubber worn below rivet heads) – on the ribs by the hinges and on the footbottom for protection when folding up.											
Ribs must be free of cracks, especially inspect around the hinge points.											
Ribs must be free of damage (deformation not allowed) especially at the flange area, where they are riveted to the inside and outside skins.											
Skins must be free of cracks, holes, and deformations.											
Skins and ribs must be free of corrosion, especially around the riveted areas.											
The steps must be free from cracks, properly fastened and have the complete step surface, including the 90 degree bend at the bottom, covered in non-skid material.											
Cushions on the Scrambler® seat and the side to the right of the patron must be the proper size and in good condition. The seat back is not required to have a cushion but must at least have a vinyl covering, not bare aluminum.											
The stepping surface of the footbottom must have a secondary reinforcement, with a non-skid surface, properly installed and in good working condition, ie. a 13" X 36" wooden board or piece of treadplate (no sharp corners or splinters on either).											
The widest part of the gap between the hole for the seat pin and the pin itself must be less than or = 3/64" (Hole inside diameter – Pin outside diameter < or = 3/64")											
There must be no flaking on the seat tabs and no visible cracks.											
The seat tabs must be solidly attached to the seat.											

To accompany Scrambler Sear Repair Bulletins 060131-12 and 060131-14

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NOTIFICATION

Ride Manufacturer: Eli Bridge Company
Ride Names: BIG ELI® HY-5 Cable Drive Wheel

Affected Production Dates: All
Affected Serial Nos: All

Abstract of Issue: It has come to our attention that some jurisdictions have begun requiring covers over the drive sheave on the HY-5 BIG ELI® Wheel. This came about as the result of an accident on a former Park Model Eli Wheel converted to a trailer-mount by a company other than Eli Bridge Company. As we understand the incident, an individual was injured when their foot came in contact with the moving parts of the drive sheave. In receiving information about the incident it appears that the distance between the drive unit and the seats was reduced during the unauthorized modification to make the ride trailer mounted.

Reason For Release: To the best of our knowledge, no such accident has ever happened on a Park model or a factory designed and manufactured Eli Trailer-mounted model Wheel. We have serious concerns about placing covers around the drive sheave as a "barrier" on Eli models. First, we believe that such a cover may change the point of contact to a position more readily accessible to the patrons' extremities, resulting in more accidents. Obviously, none of us wants that result.

The second problem with placing a cover close to the drive sheave is that it is also in close proximity to the moving drive cable. If the cable is constantly rubbing against an added cover, it could produce two new results, neither good. First, it adds a pinch point for fingers and toes and second, then the cable could more quickly wear and even snap while under tension. Eli Bridge stands behind our products and we are always concerned with rider safety first. We do not support any modification that would compromise the safety of the ride for the customers.

In summary, while we are not aware of incidents of the type described above on an Eli Wheel (not remanufactured by another company), we feel compelled to notify you of the accident that occurred and to recommend that Eli Wheel Owners take steps to prevent such incidents from happening.

Actions to be taken:
1 -- Owners/Operators display obvious warnings to patrons to "Keep hands and feet inside the seat at all times"
2 --Train the operator to vigilantly practice proper care with respect to patron behavior as well as their own, to promote safety and enjoyable entertainment.

Note: As a matter of record, the only practical way to completely eliminate, mechanically, the opportunity for an incident as described above, is to upgrade from your HY - 5® Wheel to a rim-drive HY-5II BIG ELI® Wheel. Eli Bridge Company began building Rim Drive HY-5® II Wheels in 1984, so the technology is 22 years old and the durability and safety records of these Wheels are well documented and established. Most BIG ELI® Wheel purchasers since that time have chosen the rim-drive option. Eli Bridge Company no longer manufacturers cable drive Wheels because we feel strongly that the rim drive Wheel is a much safer product, and certainly easier to operate by today's ride operator.

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SAFETY ALERT

Ride Manufacturer: Eli Bridge Company **Affected Production Dates**: All **Affected Serial Nos**: All
Ride Names: Eagle 16 Wheels, Double Eagle 16 Wheels, HY-5II Wheels

Abstract of Issues: 1) A Double Eagle had a removable drive-rim bolt failure due to the bolt having been in operation beyond its useful life. The threads on the nut and bolt had lost their elasticity and were backing off and being retightened several times a week. During the time the bolt was loose, it wore the hole in the spoke tab into an oval, to the point where a load was applied to the nut, which was not intended by the design. The nut and bolt should always be tight so that the only loads on the bolt are a compression load from the tightening of the nut and bolt and a sheer load on the shank where the aluminum drive rim and the steel spoke tab meet.
2) Both the removable nut and bolt and the pivot nut and bolt should be kept lubricated to avoid rust and corrosion, especially where the steel is in contact with the aluminum drive rim

Reason For Release: 1) There was an incident on a Double Load BIG ELI Eagle #16 where a drive-rim removable bolt broke during operation. With the cooperation of the owner and his staff, the Ohio State Inspection Department, and the other Wheel owners in Ohio, there has been an investigation as to the cause of the break. The crack started at the end of the threads closest to the shank of the removable bolt and proceeded to break into the shank. By design, there should be no bending load on the threads of the removable drive-rim bolt. If the nut and bolt do not remain tightened, the aluminum drive rim and the steel spoke tab which are being held together by the nut and bolt will be allowed to move up and down against each other and eventually wear the holes into ovals. This looseness lets the pin move and the result is that a load is put on the nut by the tab. This load is transferred to the threads as a bending load, thus eventually cracking the thread until ultimate failure occurs as a break.
2) During the investigation we found that occasionally when Eagles & HY-5II's are assembled or disassembled the pivot pin is broken by the torque applied when the drive rim is folded or unfolded if the pivot pin had corroded against the aluminum rim.

Actions to be taken:

1) All Drive-Rim Removable Bolts (and nuts) and Pivot Bolts (and nuts) over five (5) years old must be replaced with new ones before opening the season or by March 15, 2006 if the Wheel is already operating.
2) Any bolt and nut, no matter the age, should be replaced if the nut starts repeatedly backing off the threads after being properly torqued.
3) Drive Rim Bolts (both removable and pivot bolts) need to be torqued to between 75- and 100-foot-pounds each time they are installed.
4) If the nut is bottoming out on the threads before the proper torque is reached, then a flat washer of adequate thickness (not a lock or split washer) should be inserted between the nut and spoke tab to rectify this problem.
5) All existing Drive-Rim Removable Bolts (and nuts) and Pivot Bolts (and nuts) must be replaced with new ones every five years.
6) Both bolts should be kept lubricated and "Never-Seize" (or equivalent) must be applied on the large shoulder of the Pivot Bolts before beginning each season, more often if it operates in climates that cause it to disintegrate in less than a year.
7) The Spoke Tenon Bolt (often called "hub bolt) connections should be checked for wear at least once per year: preferably before the season starts in the Spring, more if the wear is close to the tolerances. Excessive wear on these causes faster wear of drive rim bolts.
   a) If either the bolt or banana is worn 1/32" or more on one side of the spoke stack, it should be replaced with a new one. AND the bolt and/or banana in the same position on the other side of the spoke stack should be replaced at the same time. Failure to replace them both could allow the stack to pull to one side or the other when raising the tower and setting the Wheel up.
   b) If the spoke tenon hole is worn more than 1/32" call Eli Bridge.
8) If your spoke tab holes are wearing into ovals, the tabs should be replaced or they should be reamed out and bushed to bring the hole back to original size. This will help deter the bending stress on the threads. Parts/reamers for both of these options are available from Eli Bridge Company.

NOTE: In February 2006 there will be some minor modifications (for instance, slightly larger radii in the pivot and removable drive-rim bolts for the Eagle and Double Eagle to provide an even more robust design of these bolts.

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SAFETY ALERT

Ride Manufacturer: Eli Bridge Company **Affected Production Dates:** All **Affected Serial Nos:** All
Ride Names: Big Eli Scrambler® Aluminum Seats

Abstract of Issue: Pinch potential in lap bar assembly.

Reason For Release: It has been brought to our attention that it is possible to pinch fingers between the lap bar pivot block and the lap bar hinge blocks if care is not used.

Actions to be taken: Eli Bridge Co. has redesigned a wider lap bar hinge block that covers the sweep of the lap bar pivot block movement to minimize the possibility of pinching the fingers when raising or lowering the lap bar. The suggested replacement part # is 273-421B which consists of 4 lap bar hinge blocks that can be screwed to the existing door in place of the original block # 273-421A. All existing components are reused with the wider hinge blocks. Two 5/16 -18 x 3/4" long pan head screws (stainless steel) hold the hinge blocks to the handle bar.