



**CHANCE RIDES MANUFACTURING, INC.**  
**4200 Walker**  
**Wichita, KS 67277-2328**  
**U.S.A.**  
Phone: 1-316-942-7411 • FAX: 1-316-942-2012  
**Website: www.chancerides.com**  
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Bulletin No:	B403CRM180-0
Release Date:	September 5, 2012
Effective Date:	September 5, 2012
Supersedes:	N / A
Completion Date:	See Text
Page:	1 of 5

# SERVICE BULLETIN

Ride Manufacturer: CHANCE RIDES, INC. Affected Production Dates: All  
CHANCE RIDES MANUFACTURING CO., INC.

Ride Name: 20-FOOT CARROUSEL (Model 409) Affected Serial Nos.: All Units  
36-FOOT CARROUSEL (Model 404)  
36-FOOT PTC CARROUSEL (Model 416)  
36-FOOT DOUBLE DECKER CARROUSEL (Model 420)  
28-FOOT CARROUSEL (Model 403)  
28-FOOT PTC CARROUSEL (Model 415)  
28-FOOT DOUBLE DECKER CARROUSEL (Model 426)  
50-FOOT CARROUSEL (Model 405)

Model Nos.: 403, 404, 405, 409, , 415, 416, 420 and 426

Abstract of Issue:  
Inspection and Maintenance of Crankshaft U-Joints

Reason For Release:  
The crankshafts are driven through two or more universal joints (u-joints). Loose, incorrectly aligned or poorly maintained u-joints can result in uneven, “jerky” operation and shortened service life of crankshaft drive components.

This bulletin outlines specific areas which must be inspected and maintained in accordance with good mechanical practice and the manufacturer’s specifications.

Action to be Taken:  
All owner/operators of the above noted amusement rides are required to inspect all u-joints for proper installation within 30 days of the release date on this bulletin. Subsequent inspection and maintenance of the u-joints is required monthly or at every set-up, whichever occurs first. These procedures are described on the following pages of this bulletin.

All work must be performed by qualified personnel, capable of understanding the function of the parts and their proper installation. Use only those components authorized, specified or provided by Chance Rides Manufacturing, Inc. All applicable OSHA safety standards and safe industry practices must be observed.

Observe all safety information contained in the manufacturer’s manuals. Make available this bulletin and all related technical information to personnel using the equipment.

Chance Rides Manufacturing, Inc. issues notifications for the benefit of owners of amusement rides manufactured by Chance Rides Manufacturing, Inc. As a service to the industry, and in the interest of employee and public safety, Chance Rides Manufacturing, Inc. also issues notifications for the benefit of owners of amusement ride equipment for which the manufacturer no longer exists, such as the Allan Herschell Company, Chance Manufacturing Co., Inc., Chance Rides, Inc., etc. In doing so, Chance Rides Manufacturing, Inc. does not assume liability for losses associated with amusement ride equipment built by manufacturers other than Chance Rides Manufacturing, Inc.



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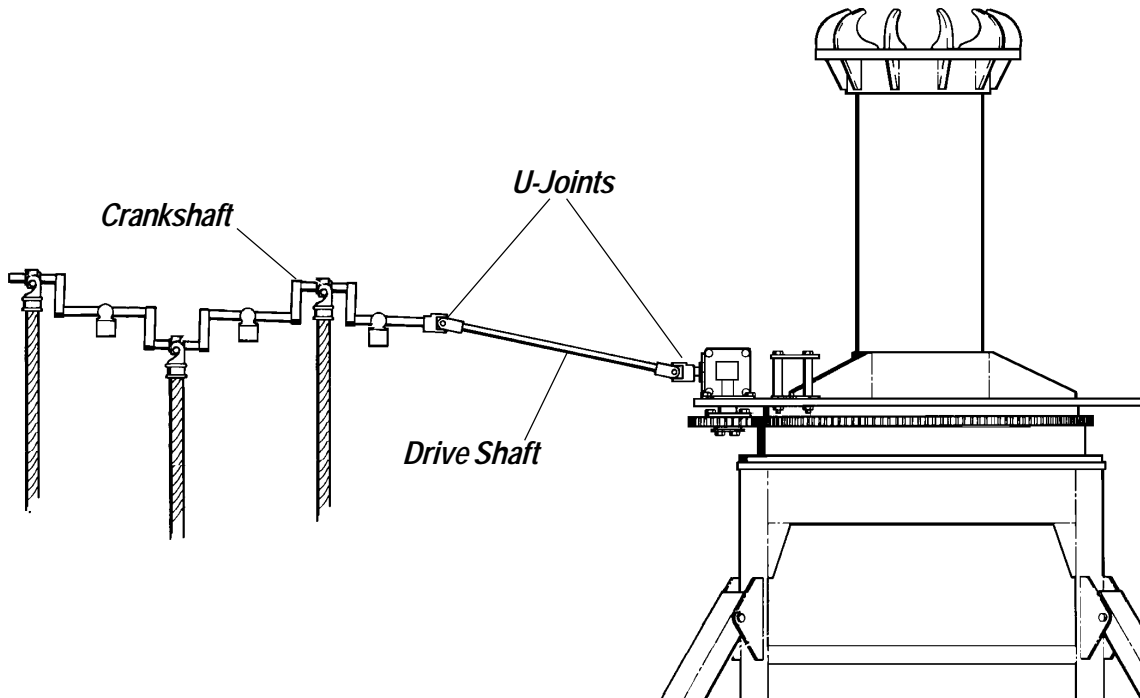
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Detail of Issue (continued):

### Crankshaft U-Joint Identification



**NOTE:** 36-FOOT CARROUSEL shown. Other models are similar.

DOUBLE DECKER CARROUSELS also have u-joints on the vertical drive shafts.



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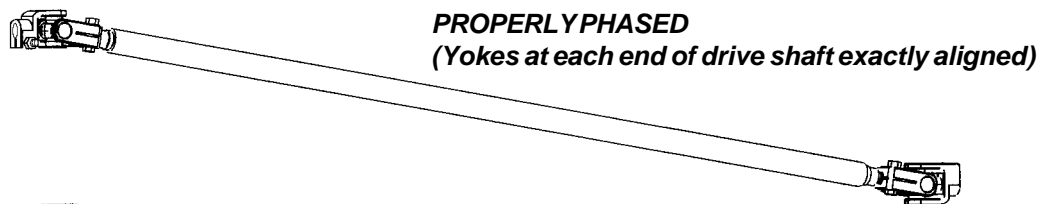
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Detail of Issue (continued):

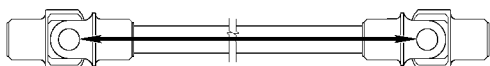
### Correct Installation of U-Joints

Check all u-joints for proper phasing (refer to the following illustrations). Pay attention to the position of the yokes at each end of the drive shaft. The yokes must be exactly aligned with each other.

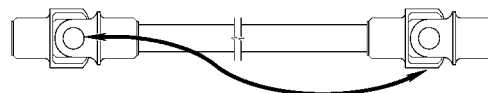


**IMPROPERLY PHASED**  
(Yokes at each end of drive shaft misaligned)

**PROPERLY PHASED**  
(Yokes exactly aligned)



**IMPROPERLY PHASED**  
(Yokes misaligned)





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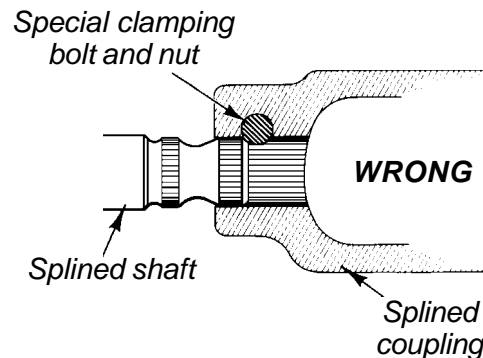
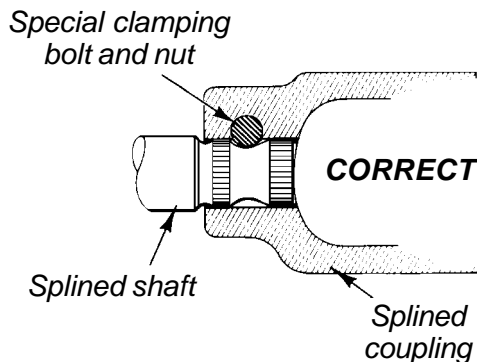
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Detail of Issue (continued):

If u-joints are found to be improperly phased, the u-joint attached to the gearbox must be removed from the ride to correct the problem.

**IMPORTANT:** For an appealing ride operation, the crankshafts must be "timed" correctly. This is described in the appropriate CARROUSEL Set-Up Manual. When any crankshaft drive component is removed, it must be installed to maintain the original crankshaft timing. Observe the following:

- Work on only one u-joint at a time.
- Manually rotate the ride until the figure on the inside row is at its highest point. The crankshaft throw for that figure will be straight up.
- Disconnect both ends of the u-joint attached to the gearbox and completely remove it from the ride.
- With the u-joint aligned exactly with the u-joint on the other end of the drive shaft, install it on both the drive shaft and the gearbox. Make sure the crankshaft does not rotate. A second person may be helpful to maintain the correct crankshaft position.
- Install the special clamping bolt and nut and tighten to 75 Ft-lbs.





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Detail of Issue (continued):

**Monthly U-Joint Inspection and Maintenance**

The following items must be inspected monthly or at every set-up, whichever occurs first. These items can be inspected with the drive shafts installed on the ride.

1. Check the fasteners in each u-joint. The special clamping bolt must be engaged in the groove in the splined shaft. The special nut must be tightened to 75 ft-lbs.
2. The u-joints must be lubricated per the appropriate *CARROUSEL Maintenance Manual*.
3. Check the u-joints for cracks, pitting, signs of damage, surface fatigue and looseness. The U-joints must be replaced at the first sign of wear, looseness, noise, etc.

**NOTE:** Check u-joint for looseness by grasping one side of the shaft behind the u-joint and placing your other hand on the opposite side of the u-joint while rotating the shaft back and forth in opposite directions. If any looseness is found, replace the u-joint before putting the ride back into service.