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.rides.com
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Bulletin No:	B414CRM147-0
Release Date:	August 18, 2006
Effective Date:	August 18, 2006
Supersedes:	N / A
Completion Date:	See Text
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SERVICE BULLETIN

Ride Manufacturer: CHANCE RIDES, INC.

Affected Production Dates: All

Ride Name: INVERTER (Portable Model)
INVERTER (Park Model)
DOUBLE INVERTER

Affected Serial Nos.: All units

Model No.: 414

Abstract of Issue:

Inspection and Maintenance of Vehicle Drive Shafts

Reason For Release:

The position of the vehicle is controlled by two drive shaft assemblies. Gearboxes at both ends of each drive shaft engage the static ring on the tower and the bearing on the vehicle. The drive shafts and all related components must be installed correctly and maintained properly to ensure the proper position of the vehicle throughout the ride cycle.

This bulletin outlines the specific areas of these components which must be maintained in accordance with good mechanical practice and the manufacturer's specifications. This bulletin is being released to supplement the information provided in the *INVERTER Service Manual.*

Action to be Taken:

All owner/operators of the above noted amusement rides are required to inspect the drive shafts monthly or at every set-up, whichever occurs first. The inspection procedure is described on the following pages of this bulletin. In addition to this inspection, the four pillow block bearings must be replaced annually to ensure that they are in good operating condition. Important drive shaft servicing information is also included in this bulletin.

It is highly recommended that detailed records be maintained regarding the maintenance of these components to verify that the required work has been performed in accordance with the specifications in 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.

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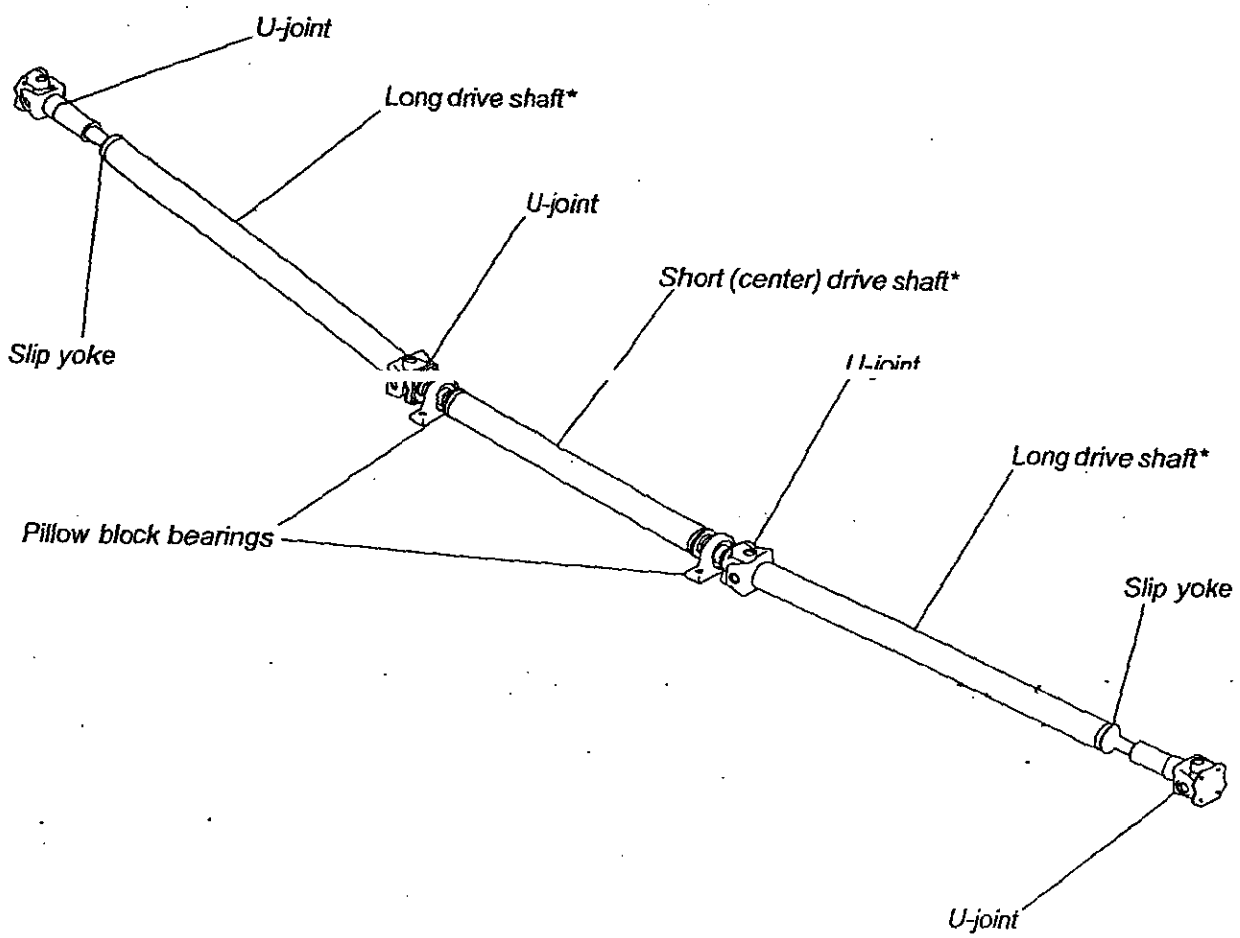
Model No.: 414

Detail of Issue (continued):

Drive Shaft Component Identification



* These components are not serviced separately

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Detail of Issue (continued):

Drive Shaft Inspection

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 for loose fasteners at the flanges at both ends of the drive shaft assemblies. Refer to the *INVERTER Maintenance Manual* for fastener size and torque specifications.

2. Check the drive shaft assemblies for loose or missing balance weights, bent tubing, cracks, or any other signs of damage.

3. Check the pillow block bearings for loose fasteners, damaged seals, leaking lubricant or signs of looseness or wear in the bearing.

4. Check the slip yoke splines for excessive movement.

5. Check the u-joints for cracks, pitting, signs of damage, surface fatigue and looseness.

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

6. Check the two long drive shafts and the short (center) drive shaft for proper phasing (refer to illustrations on following pages). If a drive shaft is found to be improperly phased, it must be removed from the ride to correct the problem.

   NOTE: To check the phasing of the two long drive shafts, pay attention to the position of the yokes at each end. The yokes must be exactly aligned with each other. To check the phasing of the short (center) drive shaft, look at the flanges at each end. The flanges must be exactly aligned with each other.

   An improperly phased drive shaft usually occurs when the drive shaft is assembled, and the splined connection at the slip yoke or flange is not rotated to the proper position. To avoid this, make a reference mark on both parts of the drive shaft before disassembling the slip yoke or flange.

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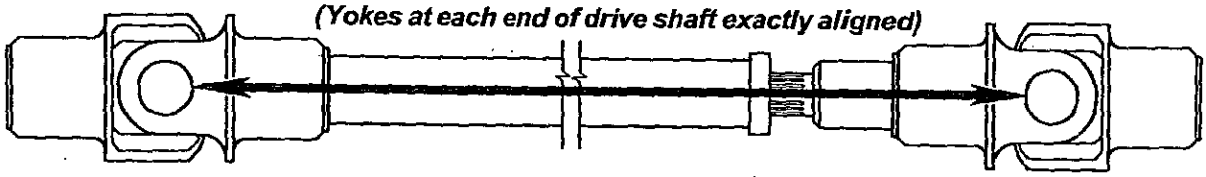
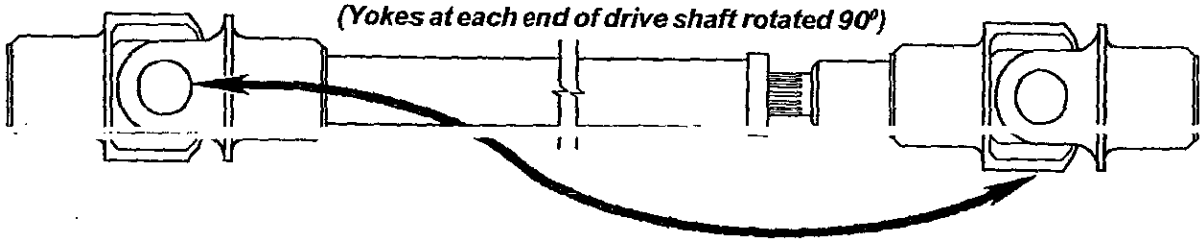
Detail of Issue (continued):

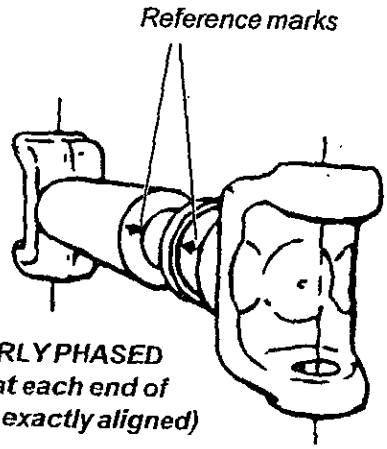
Long Drive Shaft Phasing

PROPERLY PHASED
(Yokes at each end of drive shaft exactly aligned)

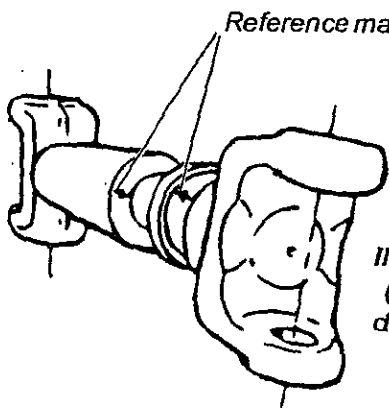


IMPROPERLY PHASED
(Yokes at each end of drive shaft rotated 90°)





PROPERLY PHASED
(Yokes at each end of drive shaft exactly aligned)



IMPROPERLY PHASED
(Yokes at each end of drive shaft one or more splines)

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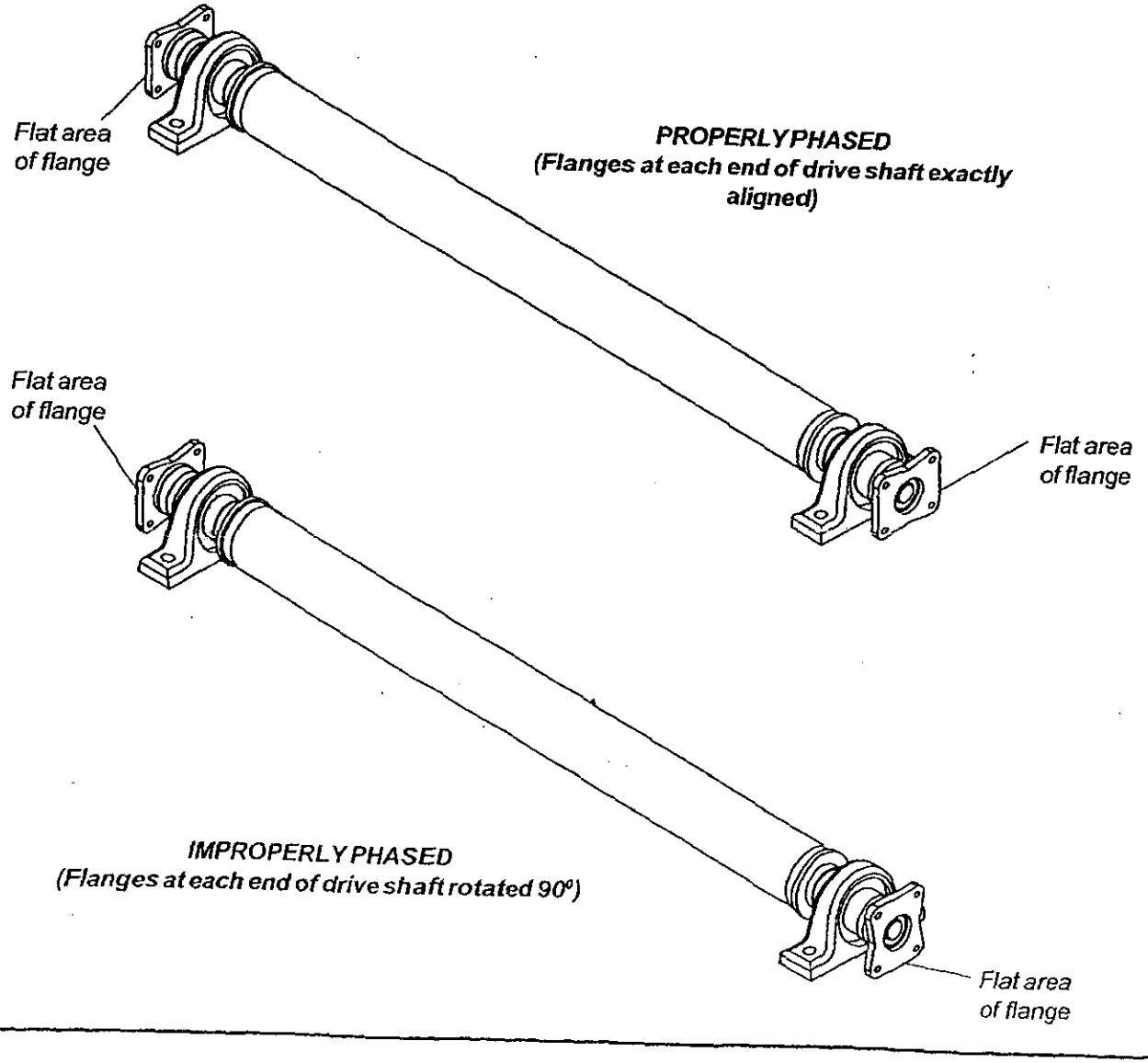
Detail of Issue (continued):

Short (Center) Drive Shaft Phasing



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Detail of Issue (continued):

Drive Shaft Service

The following items must be considered when servicing and/or repairing the vehicle drive shafts:

1. Drive Shaft Balance - Each vehicle drive shaft assembly is made up of three individual drive shafts. The drive shaft assembly is balanced as an assembly.

IMPORTANT: *Never replace individual drive shaft(s) within the drive shaft assembly - the correct balance cannot be maintained. If an individual drive shaft is damaged, or requires replacement for any reason, ORDER A COMPLETE NEW DRIVE SHAFT ASSEMBLY.*

2. Pillow Block Bearings - The pillow block bearings must be lubricated per the *INVERTER Maintenance Manual*. The pillow block bearings must be replaced with new parts annually., regardless of their condition, or any time that the bearings exhibit signs of wear, damage, excessive noise, looseness, etc.

3. U-Joints - The u-joints must be lubricated per the *INVERTER Maintenance Manual*. The u-joints must be replaced at the first sign of wear, looseness, noise, etc.

4. Slip Yokes - The slip yokes must be lubricated per the *INVERTER Maintenance Manual*. The slip yokes must be replaced at the first sign of wear, looseness in the splines, noise, etc. If a slip yoke is disassembled for service, it must be re-assembled correctly to obtain the proper phasing of the drive shaft as described in this bulletin.

IMPORTANT: *Before disassembling the slip yoke, make reference marks on both sides of the splined connection to ensure that the parts are properly re-assembled.*