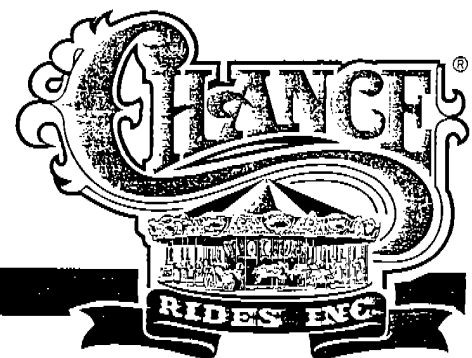


MFG: CHANCE RIDES, INC.  
NAME: PHAROAH'S FURY  
TYPE: NON-KIDDIE

# PHAROAH'S FURY

Field inspection and test guide

Manual number 24329320



## Introduction

Proper maintenance is essential to the safe operation of this ride. The tests and inspection points outlined in this field guide are not intended to replace the recommended maintenance schedule. This guide does not contain maintenance and repair procedures and should only be used as a ride inspection and test guide.

When repairs are necessary use only those components authorized, specified or provided by the manufacturer. If any alterations, modifications and/or additions, installations of unauthorized components are made to the original design without the manufacturer's explicit written consent or without direct supervision by a manufacturer's representative, CHANCE RIDES, INC., makes no claims as to the integrity of the altered or modified ride (product).

Information in this field inspection and testing guide applies only to products manufactured by CHANCE RIDES, INC. built after January 1, 1986 (**Pharaoh's Fury** serial number 407-00194 and on).

CHANCE RIDES, INC., reserves the right to make improvements in design or changes in specifications at any time without incurring any obligation to such changes.

**Ride description**

The **Pharaoh's Fury** is mounted on a single trailer. The swinging vehicle is driven by 4 trailer-mounted electric motors, one of which is equipped with an electro-mechanical brake.

The ride information plaque is mounted on the roadside frame crossmember at the rear of the trailer. It lists specifications, operating dimensions, ground loads, as well as model and serial number and date of manufacture.

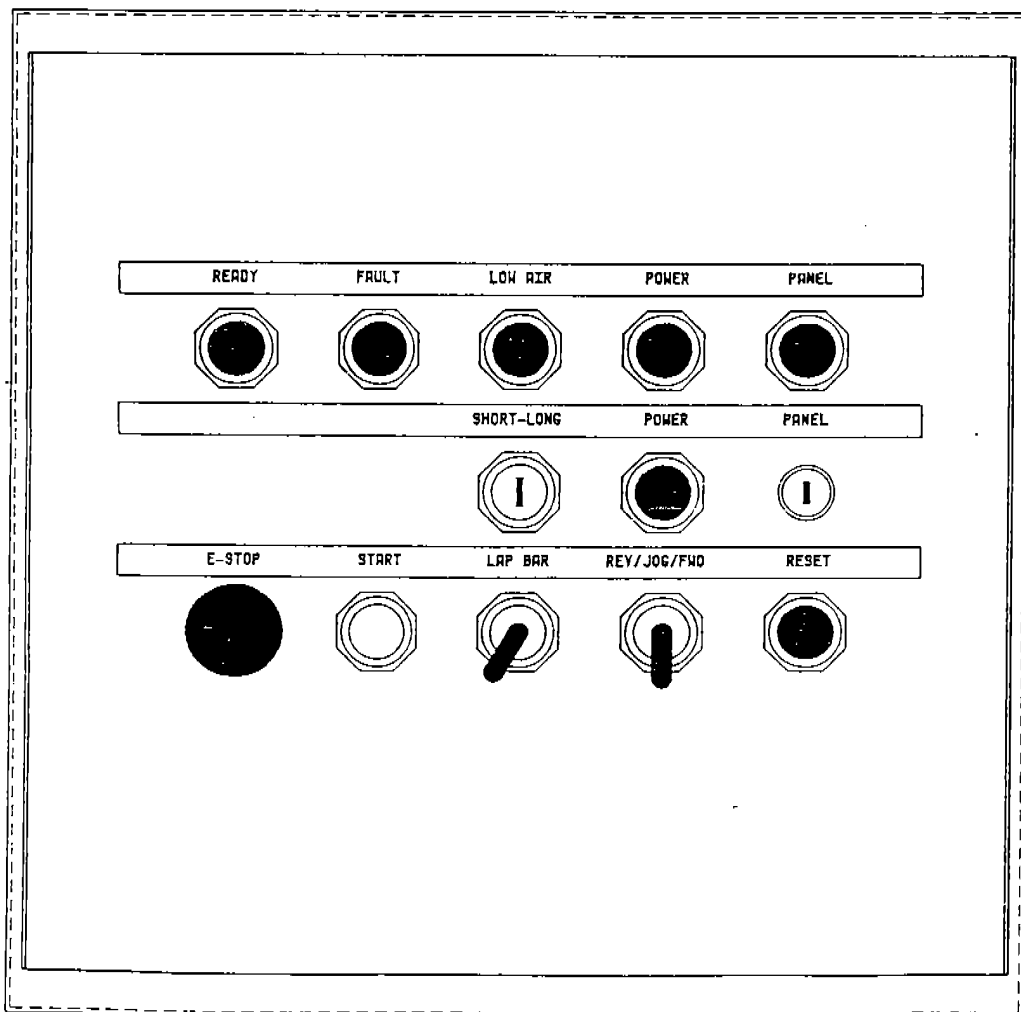
Detailed operation and maintenance information is available in the *Pharaoh's Fury Service Manual* (manual number 24329322). For more information, or to order manuals, contact CHANCE RIDES, INC.

## Operation

### Operating controls

**1. Ready light** - This green light will come on when all lap bars are locked in the down position and the OPERATOR PRESENCE switch is depressed. The ride cannot be started unless this light is on.

**2. Fault indicator light** - This red light is normally off when the power indicator light is on. If the fault indicator light is on, a fault is indicated and the ride will not operate. Do not attempt to operate the ride until the fault has been corrected.



**11. Lap bars switch** - Use this switch to raise or lower the lap bars. See "Lap Bar Operational Check" in this section for more detailed information.

*NOTE: A green indicator light is located near each lap bar on the vehicle. The indicator light is on when that bar is down and locked.*

*All lap bars must be down and locked before the READY LIGHT will come on.*

**12. Jog switch** - Use this switch after the programmed ride cycle is ended to jog the vehicle either to the left or right. This feature allows the operator to precisely locate the vehicle for loading or unloading of passengers. The OPERATOR PRESENCE SWITCH must be engaged.

**13. Reset switch** - Push this switch if the FAULT INDICATOR LIGHT comes on. When the indicator light goes out, normal operation of the ride can be resumed.

**14. Operator presence switch (not shown)** - This foot switch is located at the base of the control pedestal. It must be engaged to operate the START or JOG switches. If the switch is released, the drive program is interrupted and the ride will come to a normal, programmed stop.

**15. Light switch (not shown)** - This three-position switch is located in the main lighting control cabinet. The three switch positions are "ALL LIGHTS", "FLOOD LIGHTS" and "OFF".

*NOTE: When the switch is in the "FLOOD LIGHTS" position, the tower-mounted flood lights go off during the programmed ride cycle. When the ride cycle is completed and the vehicle stops for unloading, the lights automatically come on. The sweep mounted flood lights stay on throughout the ride cycle.*

## General inspection and testing

### Testing

#### Field performance testing of amusement rides<sup>1</sup>

The following specifications conform with ASTM F846 standard guide for *Testing Performance Of Amusement Rides And Devices*, in effect on date of ride manufacture.

#### Erection or installation testing

Each erection or installation of a ride shall be given an inspection prior to carrying passengers that shall include but not be limited to the following:

- a. Determine that ride has been erected according to the set-up procedures in the operations manual.
- b. Inspect field inspection points listed in the *Field Inspection Guide*.
- c. Visual check of all passenger carrying devices including restraint devices and latches, and the pins and capscrews securing them.
- d. Visual inspection of entrances, exits, stairways and ramps and devices securing them.
- e. Test of all communications equipment necessary for operation of the ride or device.
- f. Operate the ride to determine that direction of travel conforms to the information plate, ride manual, field inspection guide, or specification sheet.
- g. Operate the ride for a minimum of three ride cycles to determine that the ride speed does not exceed the speed specified in the information plate, ride manual, field inspection guide, or specification sheet.

#### Daily pre-opening inspection

This inspection shall include a daily inspection of all items as specified in the previous item (erection or installation testing).

### Non-destructive testing<sup>2</sup>

- REFERENCE** 1. ASTM-F24 Standard On  
**STANDARD** Amusement Rides And Devices
- a. F846-86 Testing Performance Of Amusement Rides
  - b. F853-86 Maintenance Procedures For Amusement Rides And Devices
  - c. F893-87 Inspection Of Amusement Rides And Devices

CHANCE RIDES, INC., at the time of design and manufacture, determines by calculations and testing of a prototype amusement ride the appropriateness for use, of not only the parts, but the entire system of a newly designed ride. These calculations and tests are utilized to, as feasibly as possible, determine the requirements for expected design life of major components. Based on this design criteria, CHANCE RIDES, INC. does not identify critical components on amusement rides to be singled out for non-destructive testing.

If through field experience, there is an indication that a structural or mechanical problem may develop on rides currently operating, CHANCE RIDES, INC. will notify owners by bulletin of the recommended procedures to inspect and correct the possible problem. Any possible defect which could affect the continued safe or proper operation of the ride should be reported immediately to the manufacturer by the owner/operator. This information is necessary so that a determination can be made for either the repair or replacement of the possible defective parts.

Field repairs should not be undertaken without the approval and proper instructions from the manufacturer and should be performed by qualified personnel. These persons should have a complete understanding of both the component's function and the manufacturer's instructions.

It is the responsibility of the individual inspector to thoroughly inspect the ride as he deems necessary based on his knowledge and field experience and manufacturer's recommendations. If the inspector finds an area or component that could be a

## Fasteners

### Capscrews

Capscrews used by CHANCE RIDES, INC. are classified as functional load-carrying capscrews if:

- They are used as tension members in the erection or operation of the ride

**and/or**

- They are required to resist shear through friction-type connections in the erection or operation of a ride.

Capscrews are selected with consideration to grade, size and quantity, using joint capacities based on tightness torques of 60% rated yield and group joint efficiencies of 62.5%

### Torque requirements<sup>a</sup>

Capscrews must be tightened to the torque values listed in the torque chart. These values were selected to produce a tightening torque range of 60% to 70% of proof load, when tightened with a hardened washer under the nut or capscrew head (whichever is accessible for tightening). When the capscrew is tightened from the head end, apply anti-seize lubricant to the shank end of the capscrew. When the threads are lubricated, use 10% less torque to tighten the capscrew.

**DO NOT TIGHTEN CAPSCREWS OVER THE RECOMMENDED TORQUE.** This can damage the capscrew, due to variances in coefficients of friction and torque wrench accuracy.

Always use a torque wrench. It is impossible to accurately measure the tightness of a capscrew by other methods. Torque wrenches must be checked for accuracy twice each operating season.

### Capscrew grades











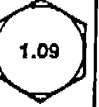
CHANCE RIDES, INC. uses only grade 5 or better capscrews and grade 8 nuts, with hardened washers for functional loads. The *Grade markings chart* shows the capscrew markings to be found on CHANCE rides. The manufacturer's identification symbols must be present on all functional load carrying capscrews.



CHANCE RIDES, INC. requires the use of cold-formed hex head capscrews with rolled threads. Hex bolts and hot formed hex head capscrews are not recommended because they may have machined threads and can have die seams along the shank.

NEVER REPLACE CAPSCREWS OR NUTS WITH PARTS OF A LESSER GRADE, OR DIFFERENT LENGTHS THAN THOSE SHOWN IN THE CHANCE PARTS CATALOG.

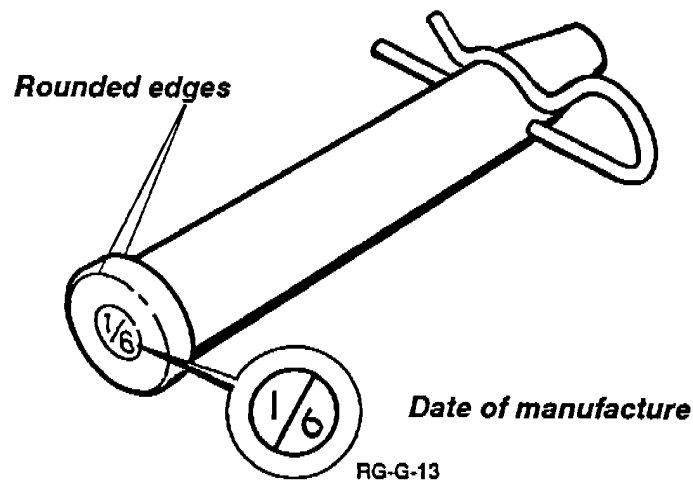
**Grade markings for functional load carrying capscrews**  
 Manufacturer's identification symbols must be present on all capscrews

Correct markings	Examples of unacceptable markings	
SAE J429 Grade 5 Medium carbon 81,000 yield		 Grade 5.1 Low carbon  Grade 5.2 Low carbon martensitic
ASTM A325 Type 1 Medium carbon Longer shank and shorter thread length than Grade 5 81,000 yield  A325	 A325 ASTM A325 Type 2 Low carbon martensitic RG-G-11	
SAE J429 Grade 8 Medium carbon 130,000 yield 	 8.8 ISO R898 Class 8.8 Medium carbon 92,000 yield  8.8	
ASTM A490 Alloy steel Longer shank and shorter thread length than Grade 8 130,000 yield  A490	 10.9 ISO R898 Class 10.9 Alloy steel 130,000 yield  1.09	

#### **Pins<sup>4</sup>**

Tapered pins used on amusement rides are subject to deterioration due to improper use and wear. CHANCE RIDES, INC. specifies certain pins for certain applications on amusement rides. These pins have been developed over a period of years, taking into account size, design, material and hardness characteristics.

Use only the pins specified by CHANCE RIDES, INC. These pins are identified as shown in the following illustration. Always use the correct hairpin.



Use care when installing and removing tapered pins. Since these pins are hardened (as are hammers and punches) care must be taken to strike the pin straight on. Striking a pin at an angle can cause the pin to chip, resulting in personal injury. For this reason APPROVED SAFETY GLASSES OR GOGGLES MUST BE WORN AT ALL TIMES when tapered pins are being installed or removed. If a tapered pin is chipped, bent, or "mushroomed" on either end, discard it and replace it with a new pin.

#### **Pin keepers**

All keepers (R-keys, hair pins, lynch pins, etc.) must be inspected for wear. If a keeper is bent out of shape or "sprung", it must be replaced.

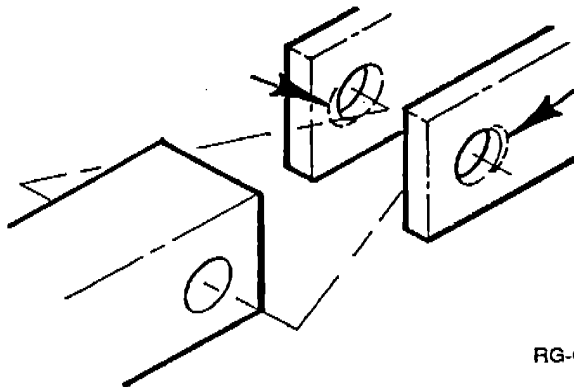
Hairpins are expendable parts. After repeated use, they become worn and "sprung" as shown.

## Inspection

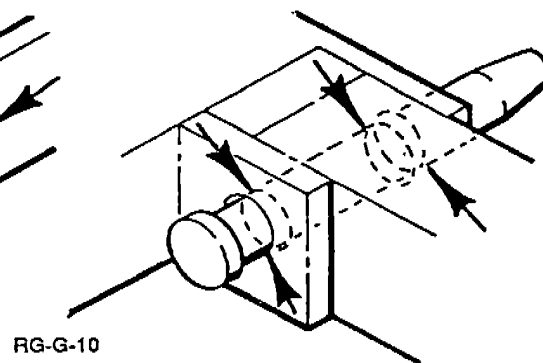
### Joint inspection

Some joints will appear to wear rapidly on new rides. This is usually a result of the holes not aligning in the mating parts. When this condition occurs it results in "point contact". A joint with this condition will generally wear rapidly until the load is distributed evenly over the fastener and the parts. If in doubt about the condition of a bolt, pin or hole on a new ride consult CHANCE RIDES, INC., and replace as required.

1. Inspect stationary joints for "egg-shaped" wear and loose pins.



*Stationary joint wear*

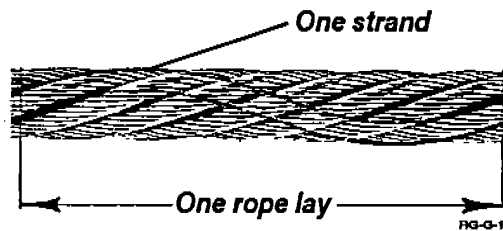


*Stationary joint-misaligned holes resulting in point contact*

2. Inspect moving joints for wear and lubrication.
3. Inspect welded structural joints for cracking or fatiguing.
4. Inspect bolted structural joints for cracking, fatiguing and proper bolt tightness.
5. Inspect pins and keepers on all pin joints for wear and proper installation.
6. Inspect all pins for proper CHANCE identification marks.

4. One strand being 75% broken through.

5. A number of wires, equal to the number in a strand, broken in the length of one rope lay.

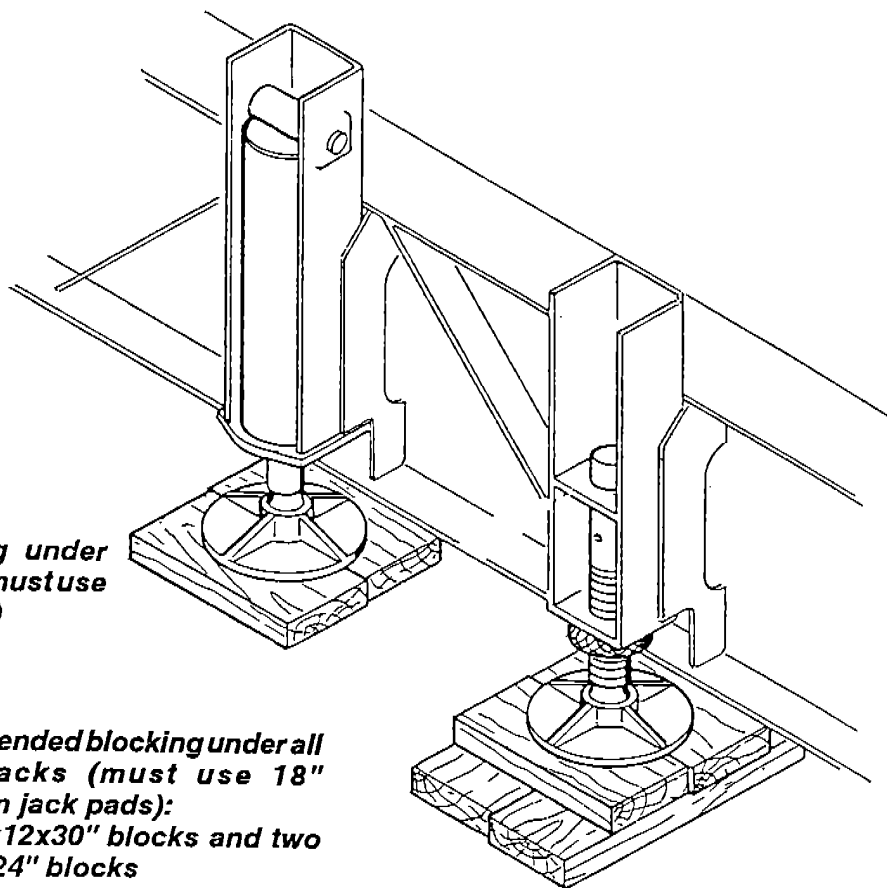


### **Leveling and blocking**

1. Inspect leveling and blocking at each set up and at the start of each day (rides erected in soft locations require more frequent inspection).
2. Inspect for proper cross blocking. Cross blocking distributes weight evenly.

### ***Always cross block***

*Cross blocking distributes weight evenly*



***Recommended blocking under hydraulic leveling jacks (must use 18" aluminum jack pads)  
Two 3x12x24" blocks***

***Recommended blocking under all screw jacks (must use 18" aluminum jack pads):  
Two 3x12x30" blocks and two 3x12x24" blocks***

3. Inspect blocking for proper contact with ground.
4. Level ground under blocking by digging where possible, instead of filling. Fill dirt will be soft and allow settling.

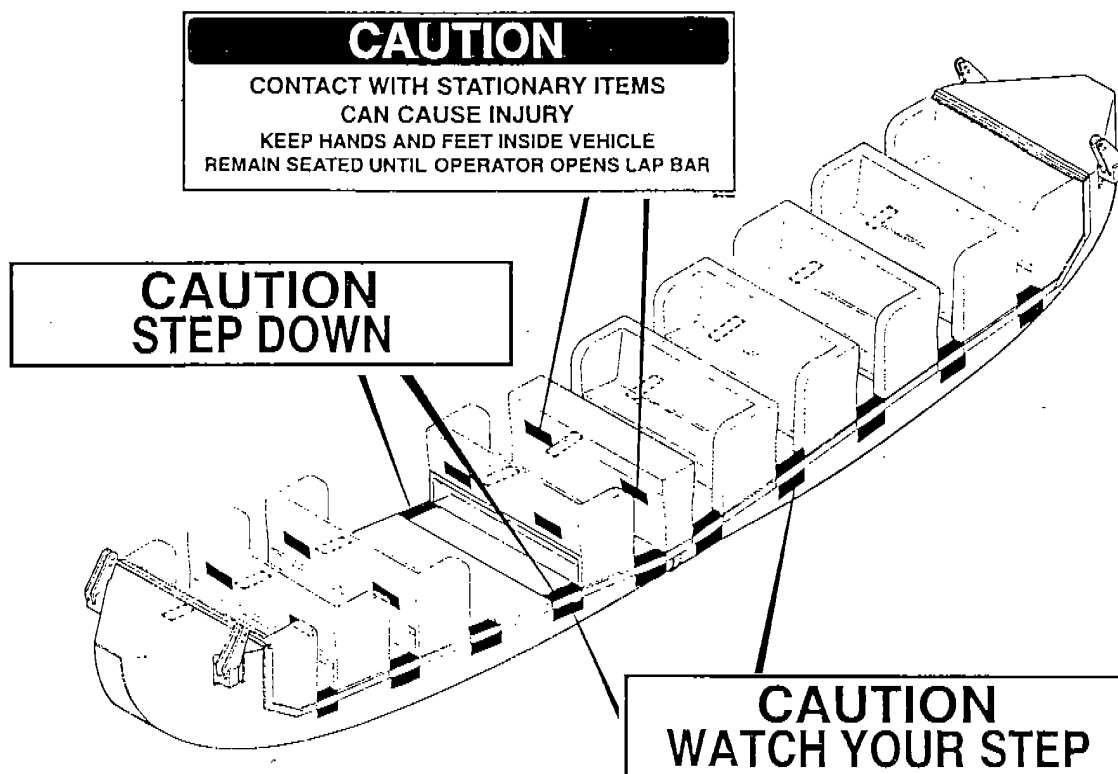
### **General safety guidelines**

The following is a list of general safety rules to which everyone should adhere.

1. All work must be performed by competent, qualified mechanics, capable of understanding the function of the parts and their proper installation.
2. Inspect the ride before each day of operation to determine that no portion of the ride is damaged, missing or worn in such a manner that unsafe conditions can develop.
3. Perform the manufacturer's recommended maintenance procedures at the intervals and in the manner specified in the operation and maintenance manual.
4. Study each job carefully to determine all hazards so that necessary safety precautions can be taken.
5. Examine safety devices (tools, ladders, etc.) before they are used to make sure they are in good condition. Use only OSHA approved safety items. Ladders must be clean and unpainted.
6. Use the proper tool or equipment for each job. All hand electric power tools must be properly grounded.
7. Wear close fitting, comfortable clothing when working on or near moving parts or live electrical circuits. Avoid finger rings, jewelry or other articles which can be caught in moving parts or come in contact with electrical circuits.
8. Protect your eyes by wearing approved safety glasses or goggles.
9. Wear a hard hat at all times. When working in elevated areas, always use a safety belt.
10. When work performed is hazardous, at least two persons shall work together.
11. If guards are removed from equipment, make sure they are replaced before leaving the job. Check that all safety decals, signs and placards are properly installed and legible.

## Vehicle inspection

1. Check the operation and locking of the lap bars using the "Lap Bar Operational Check" and "Lap Bar Interlock System Check" in this section.
2. Check the air pressure in the lap bar air system. Pressure must be 100 psi at the reservoir and 40 psi at the regulator.
3. Inspect the entire lap bar air system, including hoses, tubes and components for leaks.
4. Inspect the lap bar padding. Check the condition of the vehicle seats, seat pads and flooring.



5. Check the vehicle for installation of safety decals.
7. Inspect the overall appearance of the vehicle. Exterior abrasions can indicate ride leveling and set-up problems.

## Lap bar interlock system check

A lap bar interlock system prevents the ride from being started if any lap bar is not down and locked. The following check must be made daily to ensure the proper operation of the lap bar interlock system.



**WARNING:** Checking the lap bar interlock system requires two people.

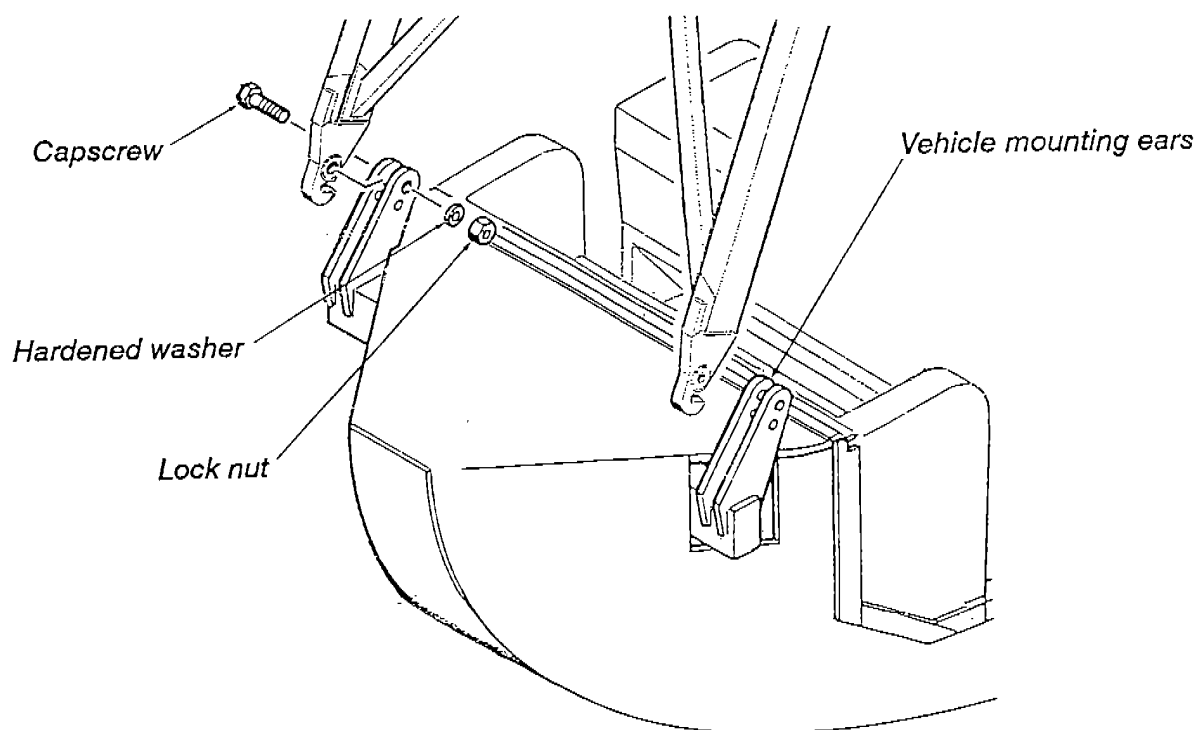
Extreme care must be taken during the procedure, in the event that the ride starts with the lap bar unlocked. Serious personal injury can result.

1. Lower and lock all lap bars. All green LAP BAR INDICATOR LIGHTS must be on.
2. Depress the operator presence switch and start the ride. It should start and run normally.
3. Stop the ride and move the LAP BAR SWITCH to "OPEN" to release the lap bars. The lap bars can then be manually raised.
4. Have a helper sit in seat number 1 and hold the lap bar just high enough that it will not lock.
5. Move the LAP BAR SWITCH to the "CLOSED" position. The green LAP BAR INDICATOR LIGHT should stay off.
6. Depress the OPERATOR PRESENCE SWITCH and push the JOG BUTTON. The READY LIGHT *must not* come on and the ride *must not start or run* when the lap bar is not down and locked.



## Sweep and sign inspection

1. Check the capscrews which attach the sweeps at the vehicle and at the sweep hangers. These are ASTM A325 capscrews and must be installed and tightened per the torque chart at the front of this section.



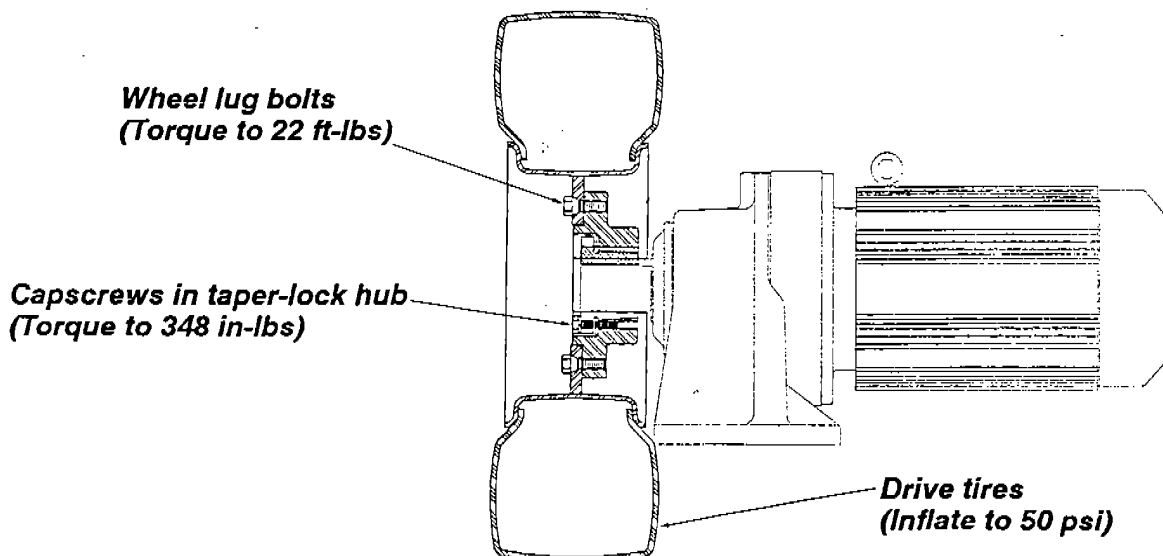
2. Inspect the pins and hairpins which attach sweep and sign components.
3. Check for installation of wind brace cables between the sweeps and sign.
4. Inspect the sweep structures for visible cracks or damage.

## Trailer inspection

1. Visually inspect trailer structure for cracks, bad welds and other signs of fatigue.
2. Inspect all safety signs and placards.

## Drive, hydraulic and air system inspection

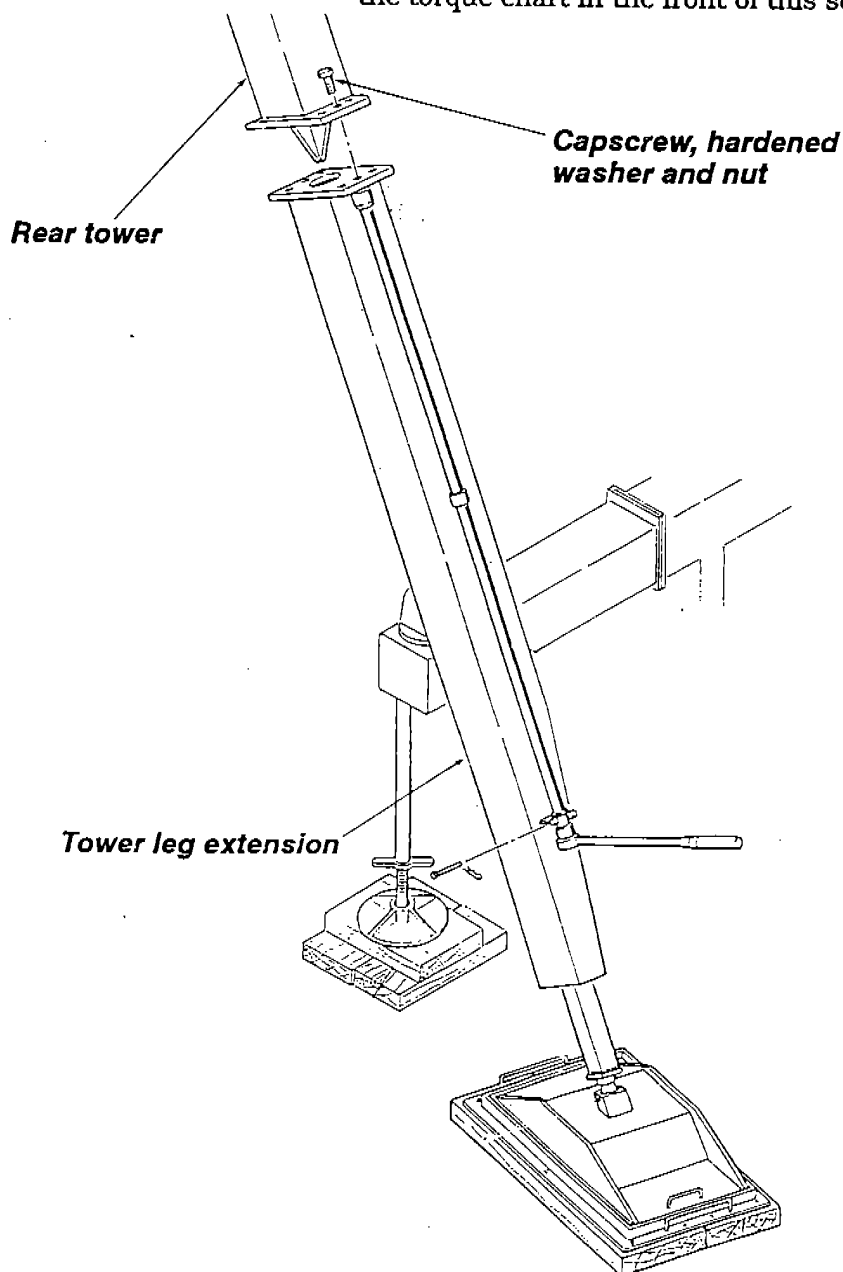
1. Check the air pressure in the drive air system. Pressure must be 100 psi at the reservoir, and 50 psi at the regulator.
2. Inspect the entire air system for leaks.
3. Inspect the drive tires for wear, proper pressure and lug bolt torque. contact area and tracking. Drive tires that are rubbing or out of alignment can indicate that the trailer or towers are not properly leveled. Also check the capscrews in the taper lock hub.



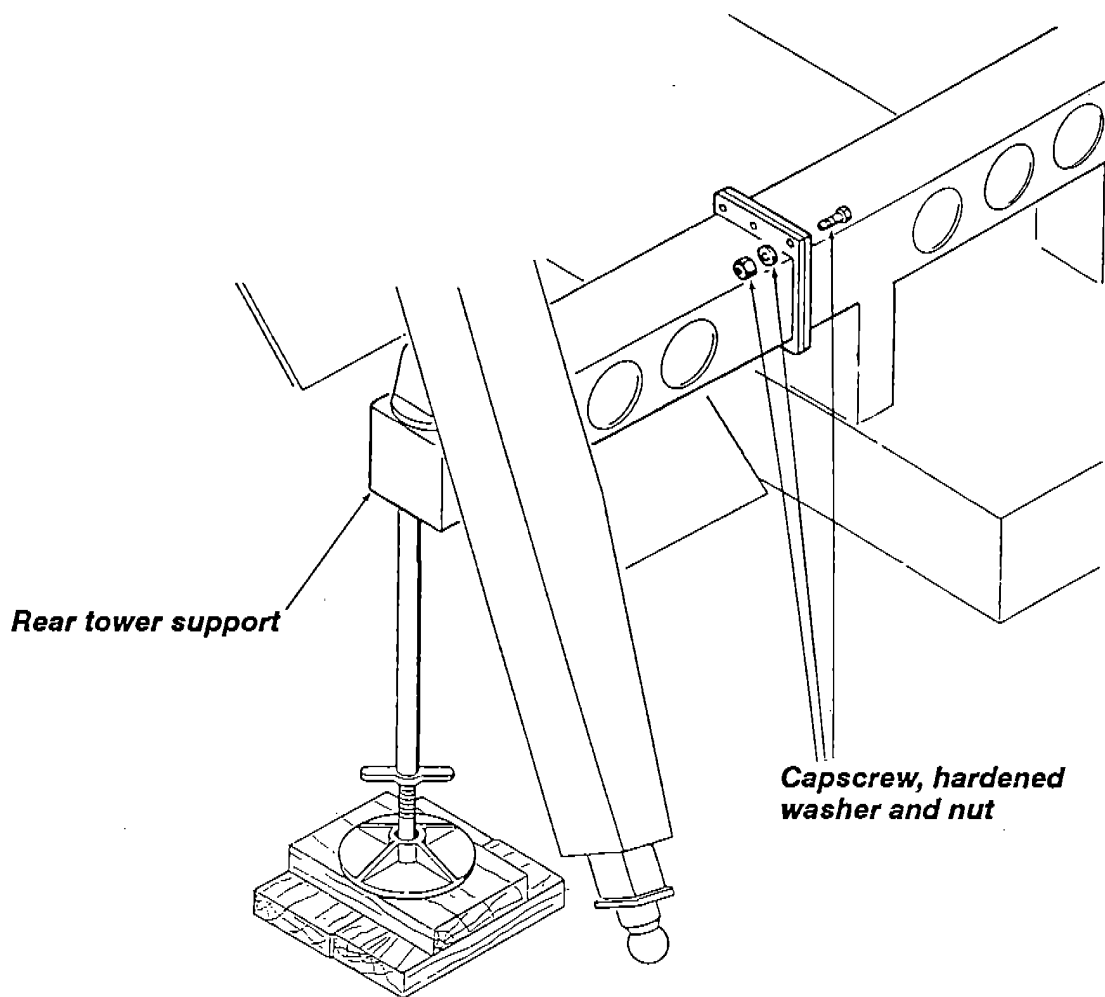
## Tower leg and structure inspection

1. Inspect the mating of the rear tower legs to the tower leg extensions.

2. Check tower mating capscrews for proper torque. These are Grade 5 capscrews and must be installed and tightened per the torque chart in the front of this section.



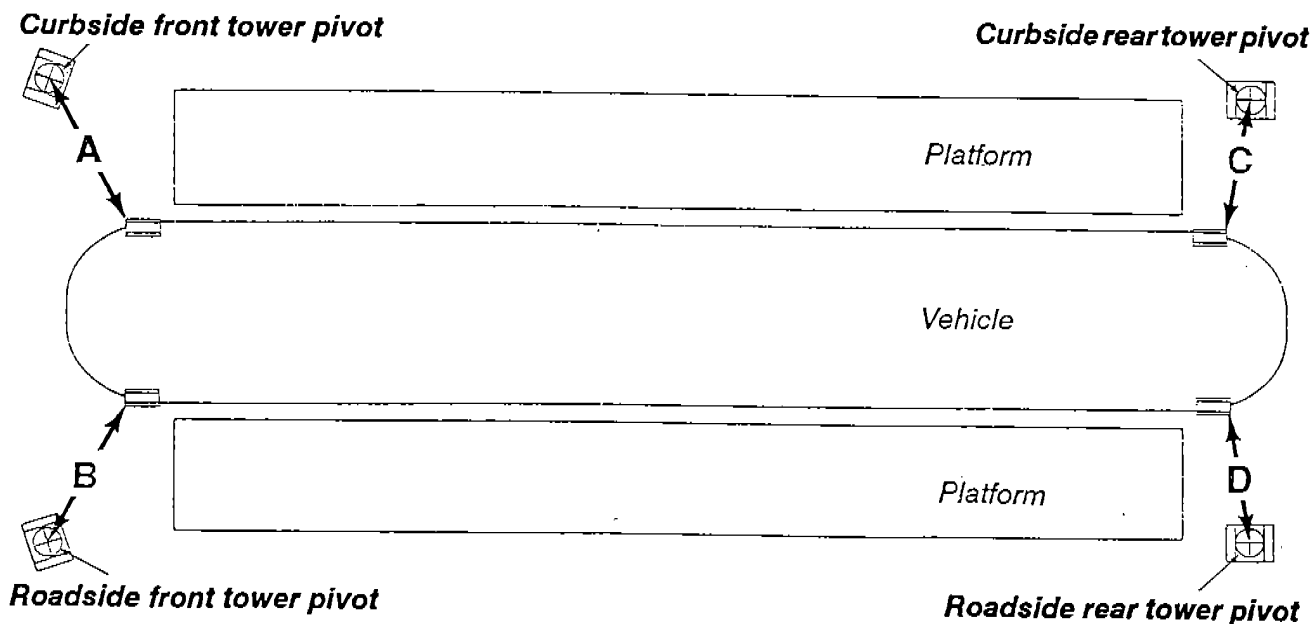
5. Check the capscrews in the rear tower supports for proper torque. These are Grade 5 capscrews and must be installed and tightened per the torque chart in the front of this section.



## Platform and fence inspection

1. Inspect hand rails, ramps and walkways<sup>3</sup>.
2. Inspect all fences for proper installation. The fence around the operator's platform must be secured from below with pins and hairpins.
3. Check that the vehicle is aligned parallel between the towers.
  - Measure diagonally between the vehicle mounting ears and the front tower pivots. ("A" and "B"). Both measurements must be equal within 3/4".
  - Measure diagonally between the vehicle mounting ears and the rear tower pivots. ("C" and "D"). Both measurements must be equal within 3/4".

Unequal clearances indicate leveling or set-up problems.



**Material handling  
equipment inspection**

1. Inspect the overall condition of all ropes, chains, cables, winches and rigging. Look for broken, worn or missing parts.
2. Make sure all material handling and racking components are removed from the ride or are secured clear of any moving parts.
3. Inspect all safety signs and placards.

# MAINTENANCE

## General information

Proper maintenance of the ride is vital to safe operation, reduced operating costs and longer equipment life.

This manual provides detailed information on scheduled maintenance and lubrication of the ride. It also includes troubleshooting information.

**IMPORTANT:** *In addition to the procedures listed in this section, certain components require scheduled maintenance. Refer to the "Vendor Literature" section of this manual for maintenance schedules for specific components.*

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## **Maintenance**

### **Preventive maintenance**

Preventive maintenance is the easiest and most economical means of assuring many satisfactory, productive hours of operation. Properly scheduled maintenance is the key to lower operating costs and longer service life.

Hourly intervals have been established for servicing the ride. Intervals are based on the number of hours the ride has run.

The items listed in this section are separated into maximum hourly intervals. These intervals are based on "average" operating conditions. Actual conditions under which your ride is operated are the determining factors when setting up a maintenance schedule. When operating under "severe" conditions, such as excessive heat, cold, dust, mud or water, more frequent servicing is necessary.

#### **First Week Of Operation**

The ride has been completely serviced and tested before leaving the factory. However, during the first week of operation and after each set-up, the ride operator must be especially observant and watch for loose parts, leaks, etc.

In addition to scheduled maintenance, check the following:

1. Check the torque of all functional load-carrying capscrews after the first week of operation and after each set-up. This allows for initial seating of components. Check the torque at monthly intervals thereafter.
2. Check for leaks in the hydraulic system and air system, if equipped. During transport, vibrations can cause leaks at hoses and fittings.
3. Check for lubricant leaks from drive gearboxes.



## Maintenance Fluids and lubricants

Timely lubrication and the use of high quality lubricants is necessary to obtain the maximum life of the ride and its components. Use only the fluids and lubricants specified in the following chart.

Fluids and lubricants chart		
Component	Capacity	Specification
Drive gearboxes (4 places)	0.4 gallon	Motor oil meeting A.P.I. Service Classification SF SAE 40W
Hydraulic reservoir	20 gallons	Non-detergent motor oil meeting A.P.I. Service Classification MS SAE 10W (Reference: SAE Technical Report J183a) <i>Examples: D.T.E.-24 Mobil® 10-10w Universal® Hydraulic Fluid</i>
Vehicle air system lubricator	As required	Non-detergent motor oil meeting A.P.I. Service Classification MS SAE 10W  DO NOT USE MULTI-VISCOSITY OILS
All zerks	As required	NLGI No. 2 lithium base grease

## **Maintenance Maintenance schedule**

### **DAILY**

#### **Lap bar interlock system**

*Test operation on each lap bar. Adjust and repair as required*

### **WEEKLY OR AT EVERY SET-UP**

#### **Vehicle air system**

*Check air pressures - 100 psi at tank, 40 psi at regulator*

*Drain filter/regulator as required*

*Drain air tank as required*

*Add oil to lubricator as required*

*Clean or replace compressor intake filter as required*

*Check oil delivery rate at lubricator - adjust as required*

#### **Drive air system**

*Clean or replace compressor intake filter as required*

*Drain filter/regulator as required*

*Drain air tank as required*

*Check air pressures - 100 psi at tank, 50 psi at regulator*

#### **Hydraulic system**

*Check fluid level at sight glass. Add oil as required*

#### **Drive tires (4 places)**

*Check inflation pressure - 50 psi*

*Check tires for damage or excessive wear*

*Check lug bolt torque - 22 ft-lbs.*

*Check taper lock hub bolt torque - 348 in-lbs.*

#### **Drive gearboxes (4 places)**

*Check oil level at oil gauge. Add oil as required*

### **AT EVERY SET-UP**

#### **Winch cables**

*Inspect and replace any worn or damaged cables*

*Check the drive stop bars. Adjust as required*

*Check the drive stop bolts. Adjust as required*

## **MONTHLY**

### **Lubricate the following zerk fittings**

- Sweep hanger bearings (2 places)*
- Stub tower pivots (4 places)*
- Tower erection cylinder rod end (2 places)*
- Tower erection cylinder base (4 places)*
- Drive motor pivot bearings (8 places)*
- Hydraulic pump drive coupling*
- "Landing gear" jacks (4 places on towers, 2 places on trailer)*

## **ANNUALLY**

### **Hydraulic system**

- Change hydraulic oil filter*
- Drain and replace hydraulic oil\**

### **Drive gearboxes (4 places)**

- Drain and replace gearbox oil\*\**

\* Drain and replace the oil in the hydraulic reservoir immediately if it has a milky appearance, indicating contamination by water.

\*\* Drain and replace the oil in the drive gearboxes after the first 500 hours of operation, then annually thereafter.

## **Maintenance Safety**

The following is a list of general rules which should be observed by everyone.

Remember, the key to safe and successful operation is to have well trained and well supervised employees.

### **General Safety Guidelines**

1. All work must be performed by competent, qualified mechanics, capable of understanding the function of the parts and their proper installation.
2. Inspect the ride before each day of operation to determine that no portion of the ride is damaged, missing, or worn in such a manner that unsafe conditions can develop.
3. Perform the manufacturer's recommended maintenance procedures at the intervals specified and in the manner described in this manual.
4. Study each job carefully to determine all hazards so that necessary safeguards can be taken.
5. Examine safety devices (tools, ladders, etc.) before they are used to make sure they are in good condition. Use only OSHA approved safety items. Ladders must be clean and unpainted.
6. Use the proper tool or equipment for each job. Ground all hand electric power tools before use.
7. Wear close-fitting, comfortable clothing when working on or close to moving parts or live electrical circuits. Avoid finger rings, jewelry or other articles which can be caught in moving parts or come in contact with electrical circuits.

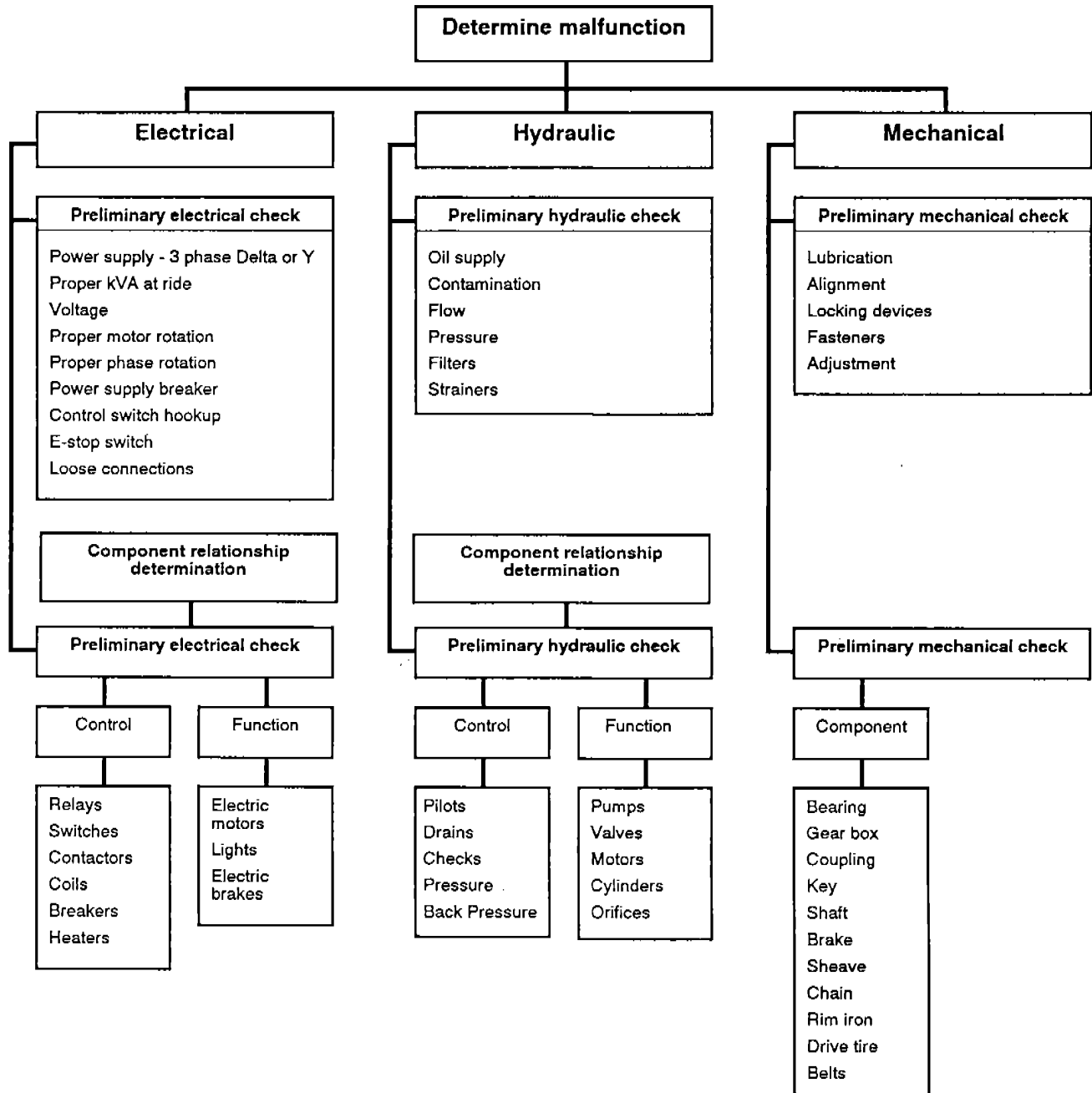
8. Protect your eyes by wearing approved safety glasses or goggles.
9. Wear a hard hat at all times. When working in elevated areas, always use a safety belt.
10. Where work to be performed is hazardous, at least two persons shall work together.
11. If guards must be removed from equipment, make sure they are replaced before leaving the job. Check that all safety decals, signs and placards are properly installed and legible.
12. Clean up after each job, and properly dispose of surplus materials.
13. Keep a record of parts replaced and the date of replacement. Inform the manufacturer of any replacement requirements that are frequent or cause unsafe conditions.
14. Make modifications and additions as outlined in manufacturer's service and safety bulletins.

## **Maintenance Troubleshooting procedures**

Before calling the CHANCE RIDES CUSTOMER SERVICE DEPARTMENT for help, be prepared with the following information:

1. Have the ride serial number and name available.
2. Have the service manual ready to use as a reference.
3. If ride was previously owned, by whom? (Chance records often show changes made to a ride by its previous owner).
4. Have the same person make all calls. Be sure to get the name of the person to whom he is speaking at the factory. All calls should then be made to that person.
5. Have a phone number ready at which you can be reached.
6. Have shipping instructions ready (how, when, and where to ship parts).
7. Have a list of any alterations, modifications or kits that have been added to the ride.
8. The person calling the factory must be familiar with the problem and be able to describe symptoms of the ride problem (such as: was the problem gradual, did it suddenly quit; are any sounds occurring that are not normal; does the problem occur continuously or is it intermittent; does the ride run in one direction only; does the ride run but have no braking, etc.).
9. Many times the problem that completely stops a ride from working is one of many simple things that are forgotten or overlooked. Listed on the following chart are many of the items that can cause this, as well as all items that must be checked before any calls are made to the factory. Use this chart to try to determine the cause. It can save several expensive phone calls or a more expensive visit by a factory representative, as well as valuable time.

# Troubleshooting chart



## **Maintenance Fasteners**

### **Capscrews**

Capscrews used by CHANCE RIDES, INC. are classified as functional load-carrying capscrews if:

- They are used as tension members in the erection or operation of the ride

**and/or**

- They are required to resist shear through friction-type connections in the erection or operation of a ride.

Capscrews are selected with consideration to grade, size and quantity, using joint capacities based on tightness torques of 60% rated yield and group joint efficiencies of 62.5%

### **Torque requirements**

Capscrews must be tightened to the torque values listed in the torque chart, unless otherwise specified. These values were selected to produce a tightening torque range of 60% to 70% of proof load, when tightened with a hardened washer under the nut or capscrew head (whichever is accessible for tightening). When the capscrew is tightened from the head end, apply anti-seize lubricant to the shank end of the capscrew. When the threads are lubricated, use 10% less torque to tighten the capscrew.

**DO NOT TIGHTEN CAPSCREWS OVER THE RECOMMENDED TORQUE.** This can damage the capscrew, due to variances in coefficients of friction and torque wrench accuracy. Always use a torque wrench. It is impossible to accurately measure the tightness of a capscrew by other methods. Torque wrenches must be checked for accuracy twice each operating season.

### **Capscrew grades**

CHANCE RIDES, INC. uses only grade 5 or better capscrews



Size Diameter - Threads/inch	Foot pound torque range (see notes 1 and 2) with locknut and hardened washer	
	SAE J429 Grade 5 ASTM A325	SAE J429 Grade 8 ASTM A490
1/4 - 20	5-6	7-8
1/4 - 28	6-7	8-10
5/16 - 18	11-13	15-18
5/16 - 24	12-15	17-21
3/8 - 16	19-24	27-33
3/8 - 24	22-27	31-38
7/16 - 14	30-35	45-55
7/16 - 20	35-40	50-60
1/2 - 13	50-60	65-80
1/2 - 20	55-65	75-90
5/8 - 11	95-115	130-160
5/8 - 18	105-130	150-180
3/4 - 10	165-200	235-285
3/4 - 16	185-225	260-320
7/8 - 9	270-325	380-460
7/8 - 14	295-360	415-505
1 - 8	*400-490	565-690
1 - 12	440-535	620-755
1 1/8 - 7	495-600	800-975
1 1/8 - 12	555-675	900-1095
1 1/4 - 7	700-850	1135-1380
1 1/4 - 12	775-940	1255-1525
1 1/2 - 6	1215-1480	1975-2395
1 1/2 - 12	1370-1660	2220-2700

\* Sweep attaching capscrews on ride serial number 406-00193 must be tightened to 250 ft-lbs. torque. DO NOT EXCEED THIS TORQUE VALUE.

and grade 8 locknuts, with A325 hardened washers for functional loads. The *Grade markings chart* shows the capscREW markings to be found on CHANCE rides. The manufacturer's identification symbols must be present on all functional load carrying capscrews.

CHANCE RIDES, INC. requires the use of cold-formed hex head capscrews with rolled threads. Hex bolts and hot formed hex head capscrews are not recommended because they may

### **Torque chart**

Torques for functional load carrying cold finished hex head capscrews with dry rolled threads, used with locknuts (see note 3), and tightened with an ASTM A325 hardened washer under the capscREW head or locknut (whichever is accessible for tightening).

This torque range will develop 60% to 70% of proof load.

Refer to **Replacement of capscrews and locknuts** for conditions requiring replacement










### **NOTES**

1. Use anti-seize lubricant on capscREW shank when tightened from head end.
2. Use 10% less torque when anti-seize or other lubricant is used on threads.
3. Use same torque range for holes tapped in steel.

have machined threads and can have die seams along the shank.

NEVER REPLACE CAPSCREWS OR NUTS WITH PARTS OF A LESSER GRADE, OR DIFFERENT LENGTHS THAN THOSE SHOWN IN THE CHANCE PARTS CATALOG.

**Grade markings for functional load carrying capscrews**  
 Manufacturer's identification symbols must be present on all capscrews

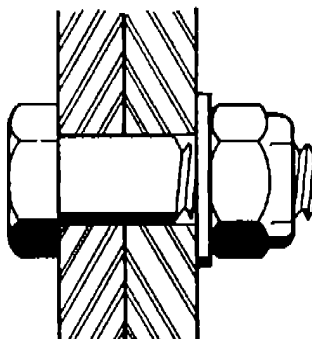
Correct markings	Examples of unacceptable markings	
<b>SAE J429</b> Grade 5 Medium carbon 81,000 yield	 <b>Grade 5.1</b> Low carbon	 <b>Grade 5.2</b> Low carbon martensitic
<b>ASTM A325 Type 1</b> Medium carbon Longer shank and shorter thread length than Grade 5 81,000 yield 	 <b>ASTM A325 Type 2</b> Low carbon martensitic	
<b>SAE J429</b> Grade 8 Medium carbon 130,000 yield	 <b>8.8</b>	<b>ISO R898</b> Class 8.8 Medium carbon 92,000 yield 
<b>ASTM A490</b> Alloy steel Longer shank and shorter thread length than Grade 8 130,000 yield 	 <b>10.9</b>	<b>ISO R898</b> Class 10.9 Alloy steel 130,000 yield 

RG-G-11

ASTM A325



ASTM A490

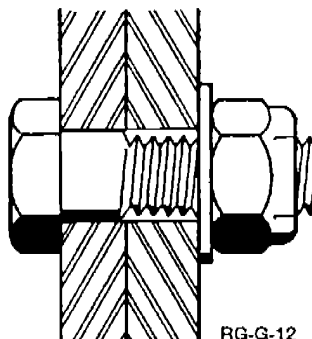
**Capscrew comparison**

ASTM A325 or ASTM A490  
Capscrew - Longer shank shorter  
threads

Grade 5



Grade 8



Grade 5 or Grade 8 cap screw -  
Shorter shank longer threads

RG-G-12

**Replacement of capscrews and locknuts**

When permanently installed capscrews and locknuts are disassembled for repair or adjustment, they must be replaced if they have been in service over five (5) years, or corrosion, or other damage requires over-torquing for removal. If a torque wrench is not used to measure excessive removal torques, the capscrews and locknuts must be replaced.

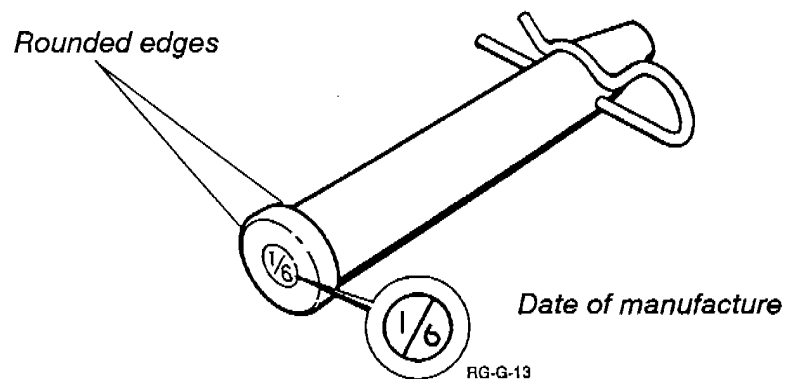
Capscrews and locknuts which are frequently disassembled for portability must be replaced each operating season. If the capscrews and locknuts become damaged, corroded or require excessive torque for removal, they must be replaced. If a torque wrench is not used to measure excessive removal torques, the capscrews and locknuts must be replaced.

### Pins

Tapered pins used on amusement rides are subject to deterioration due to improper use and wear. CHANCE RIDES, Inc. specifies certain pins for certain applications on amusement rides. These pins have been developed over a period of years, taking into account size, design, material and hardness characteristics.

Use only the pins specified by CHANCE RIDES, INC. These pins are identified as shown in the following illustration. Always use the correct hairpin.

#### Pin identification

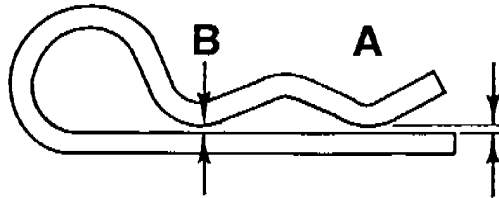


Use care when installing and removing tapered pins. Since these pins are hardened (as are hammers and punches) care must be taken to strike the pin straight on. Striking a pin at an angle can cause the pin to chip, resulting in personal injury. For this reason APPROVED SAFETY GLASSES OR GOGGLES MUST BE WORN AT ALL TIMES when tapered pins are being installed or removed. If a tapered pin is chipped, bent, or "mushroomed" on either end, discard it and replace it with a new pin.

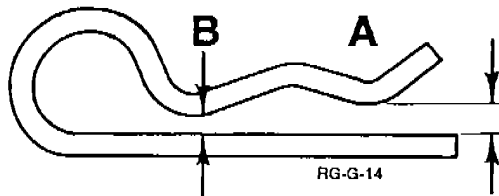
### Pin keepers

All keepers (R-keys, hair pins, lynch pins, etc.) must be inspected for wear. If a keeper is bent out of shape or "sprung", it must be replaced.

Hairpins are expendable parts. After repeated use, they become worn and "sprung" as shown.



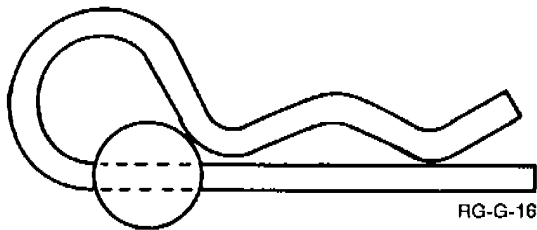
**Acceptable hair pins**  
Dimension "A" equals dimension "B" in a relaxed position



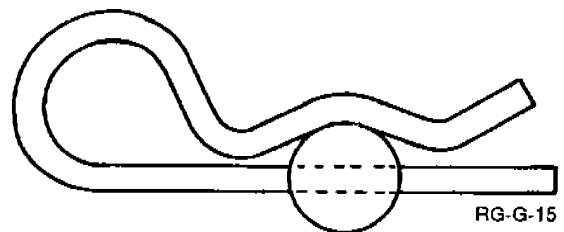
**Unacceptable hair pins**  
Dimension "A" is greater than dimension "B" in a relaxed position

NEVER ATTEMPT TO BEND A HAIR PIN BACK INTO SHAPE.  
REPLACE IT WITH A NEW PART.

The correct installation of a hairpin is shown. Incorrectly installed hairpins are more likely to fail, and will distort after only a few uses.



**Incorrect**



**Correct**

CHANCE RIDES, INC. recognizes and recommends the safety procedures specified in ASTM Standards F770 Operation Procedures for Amusement Rides and Devices and F853 Maintenance Procedures for Amusement Rides and Devices.

## **Maintenance Inspection**

### **General**

Prior to daily operation, certain inspection procedures must be followed. These inspection points include, but are not limited to:

1. Fences, gates, ramps and walkways - These areas must be clean and dry. All components must be properly installed.
2. Blocking and foundation supports - Rides set up in soft location require more frequent inspections.
3. Drives - Check drive tires and gearboxes.
4. Structure -Visually inspect the entire ride for cracks or other damage, including the sweeps, towers, spreader bars, axles and fasteners.
5. Vehicle - inspect the vehicle and seats for proper operation of all lap bars. Visually check for broken, damaged or missing parts.
6. Safety signs and decals - All safety signs and decals must be properly installed and legible.
7. Run the ride through three (3) complete ride cycles to observe the overall performance of the ride in relation to past performance of the ride and for proper function of all controls and indicators on the operator's control panel.

**Cable inspection**Reference Standards: **OSHA 1926-550 Subpart N**Cranes Derricks, Hoists,  
Elevators and Conveyors**ANSI B30.5**

5-2.4.3 Rope Replacement

5-2.4.4 Rope Maintenance

Chance Rides, Inc. recognizes the above listed standards with regards to cables (wire rope) used for rigging, slings and hoists for the purpose of setup and/or tear down on an amusement ride. It is further recognized that no precise rules can be given to determine the exact life expectancy of any given cable, due to the variables to which that cable may be subjected. Continued use of a cable depends on the judgment of the individual who is authorized to evaluate the cable.

Chance Rides, Inc. requires that prior to each setup or tear down of an amusement ride, the owner's authorized representative inspect and evaluate all cables. Cables must be replaced if any of the following conditions exists:

1. Six randomly distributed broken wires in one lay.
2. Three broken wires in any one strand in a lay.
3. Wear of one-third the original diameter of outside individual wires.
4. Physical damage such as kinking, crushing, bird-caging or any other damage resulting in distortion of the cable structure.
5. Damage due to heat of any kind.
6. Reduction from the nominal cable diameter of more than any of the following:

NOMINAL CABLE DIAMETER	MAXIMUM REDUCTION
5/16" and smaller	1/64 of an inch
3/8" to 1/2"	1/32 of an inch
9/16" to 3/4"	3/64 of an inch
7/8" to 1/18"	1/16 of an inch
1-1/4" to 1-1/2"	3/32 of an inch

*Cable Terms*



*Kinking*

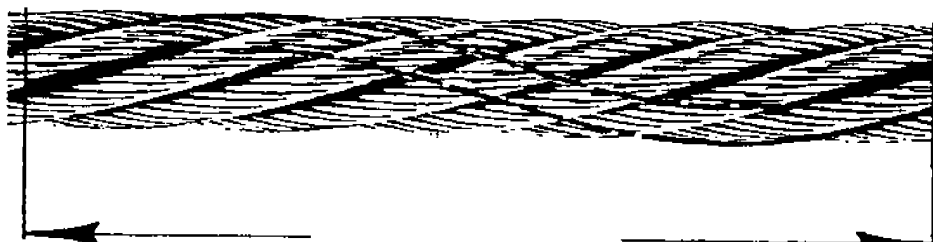


*Crushing*



RG-G-2

*Bird-Caging*



RG-G-1

*"Lay" as a unit of measurement  
(one full turn of a strand around the cable)*



All work must be performed by qualified personnel, capable of understanding the function of the parts and their proper installation.

**NOTE:** *When it is deemed necessary to replace a cable, use only those components authorized, specified or provided by Chance Rides, Inc. If any alterations and/or modifications or additions and installations of unauthorized components are made to the original design without the manufacturer's explicit written consent or without direct supervision by a manufacturer's representative, Chance Rides, Inc. makes no claim as to the integrity of the altered or modified ride.*

For inspection of drive cables or cables used to support the ride during operation, refer to Chance Rides, Inc. Service Bulletin No. B090R1071-0



**WARNING:** Failure to follow the care, use and inspection instructions could result in severe personal injury. Do not exceed rated capacities.

## **Maintenance**

### **Lap bar interlock system**

#### **Lap bar interlock system check**

The following check must be made daily to ensure the proper operation of the lap bar interlock system



**CAUTION:** Never operate the ride unless ALL lap bars are in good working condition, and the lap bar interlock system is operating correctly.

Do not tamper with or attempt to defeat the purpose of the lap bars or the lap bar interlock system. Serious injury to passengers can result.



**WARNING:** Checking the lap bar interlock system requires two people.

Extreme care must be taken during the procedure, in the event the ride starts with the lap bar unlocked. Serious personal injury can result.

1. Lower and lock all lap bars. All green lap bar indicator lights must be on.
2. Start the ride. It should start and run normally.
3. Stop the ride and move the LAP BAR SWITCH to "OPEN".
4. Have a helper sit in a seat and hold the lap bar just high enough that it will not lock.

5. Move the LAP BAR SWITCH to the "CLOSED" position. The green indicator light should stay off.
6. Depress the OPERATOR PRESENCE SWITCH presence switch and push the JOG BUTTON. The ride MUST NOT START OR RUN when the lap bar is not down and locked.



**WARNING:** When testing the lap bar interlock system, use only the JOG BUTTON. If the ride starts with the lap bar up, STOP THE RIDE IMMEDIATELY to avoid serious injury to the passenger.

7. If the ride starts, adjustment or repair of the lap bar interlock system is necessary. Refer to lap bar interlock switch adjustment in this section.

**DO NOT OPERATE THE RIDE UNTIL REPAIRS ARE MADE.**

If the ride does not start, the lap bar interlock system for that lap bar is working properly. Lower and lock the lap bar after the helper exits the seat.

8. Proceed to the next seat and repeat Steps 4, 5, 6 and 7 until all lap bars have been tested, one at a time.

### Lap bar interlock switch adjustment

If the lap bar interlock system fails on one or more lap bars, the following adjustment procedure must be followed.



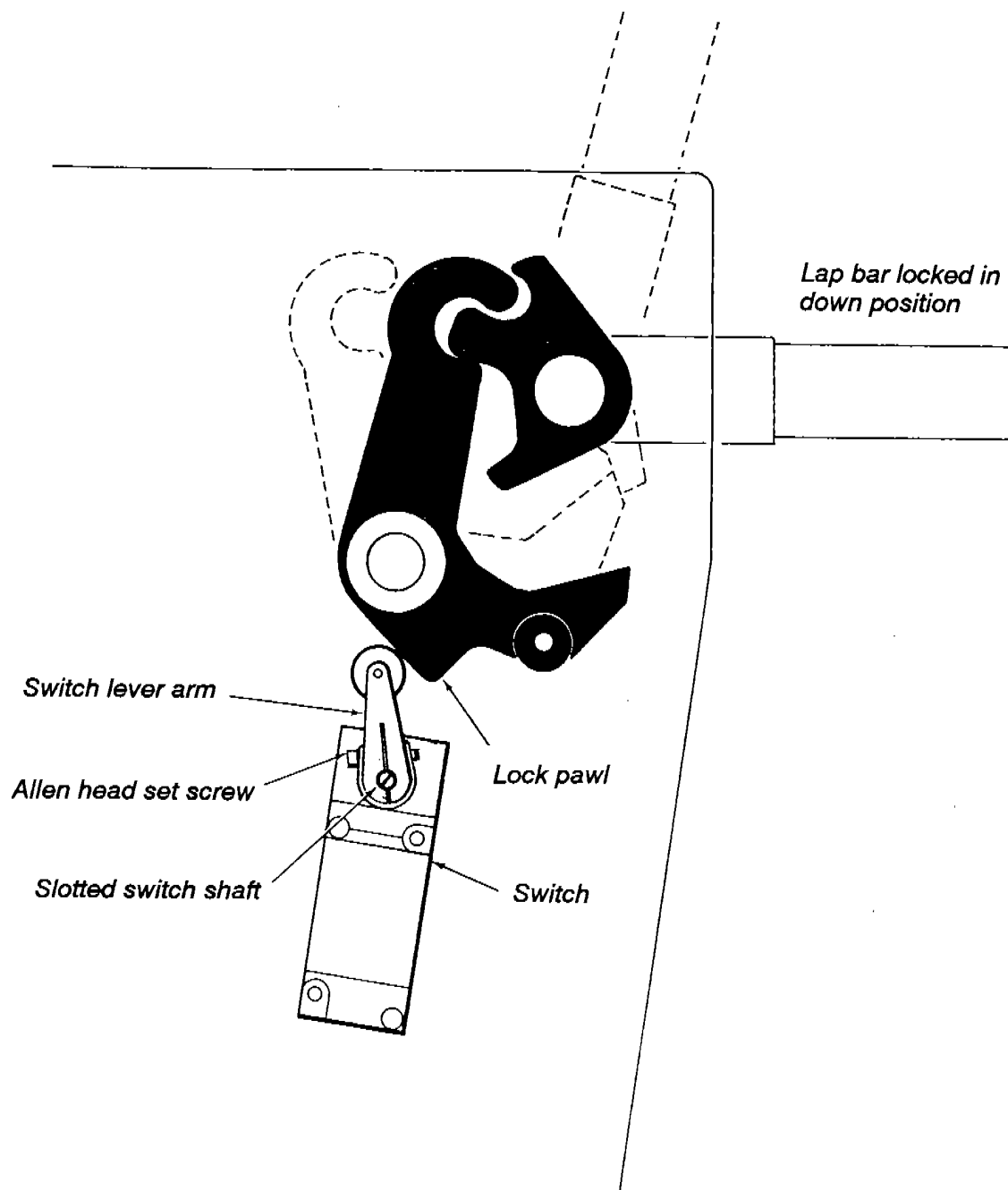
**CAUTION:** Never operate the ride unless ALL lap bars are in good working condition, and the lap bar interlock system is operating correctly.

Do not tamper with or attempt to defeat the purpose of the lap bars or the lap bar interlock system. Serious injury to passengers can result.

1. Remove the seat end panel to gain access to the lap bar interlock switch.
2. Inspect the entire lap bar mechanism. All moving components must be free of built-up grease or dirt. Check for free movement of all components. Look for bent, loose, broken or missing parts.
3. Lower the lap bar to its down and locked position.
4. Loosen the allen head screw in the switch lever arm.
5. Manually rotate the lever arm clockwise until its roller contacts the lobe on the lock pawl.
6. While holding the lever arm in position against the lock pawl, use a screw driver to rotate the slotted switch shaft counter-clockwise until the switch contacts close.

*NOTE: The closing of the switch contacts makes an audible "click".*

7. Continue to turn the switch shaft 3 degrees past this position.
8. Remove the screw drive and tighten the allen head screw.



9. Test the operation of the lap bar interlock system as previously described. If the interlock system does not operate properly after adjustments are made, consult the CHANCE CUSTOMER SERVICE DEPARTMENT.

## **Maintenance**

### **Lap bar linkage**

#### **Lap bar linkage adjustment**

The lap bar linkage is adjusted at the factory and does not normally require periodic adjustment.

Any time linkage components are replaced, or if lap bar operation indicates a problem in the linkage, use the following adjustment procedure.

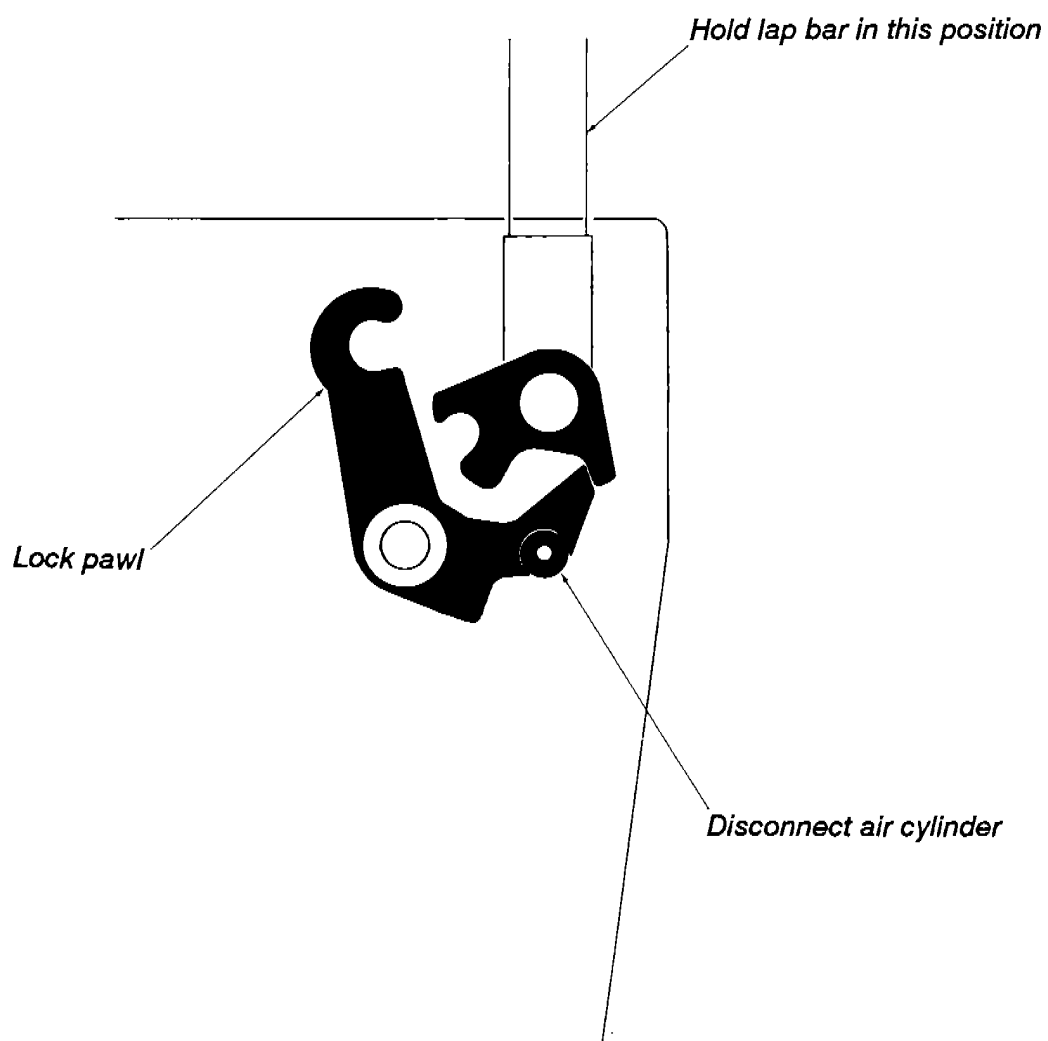


**CAUTION:** Never operate the ride unless ALL lap bars are in good working condition, and the lap bar linkage is adjusted correctly.

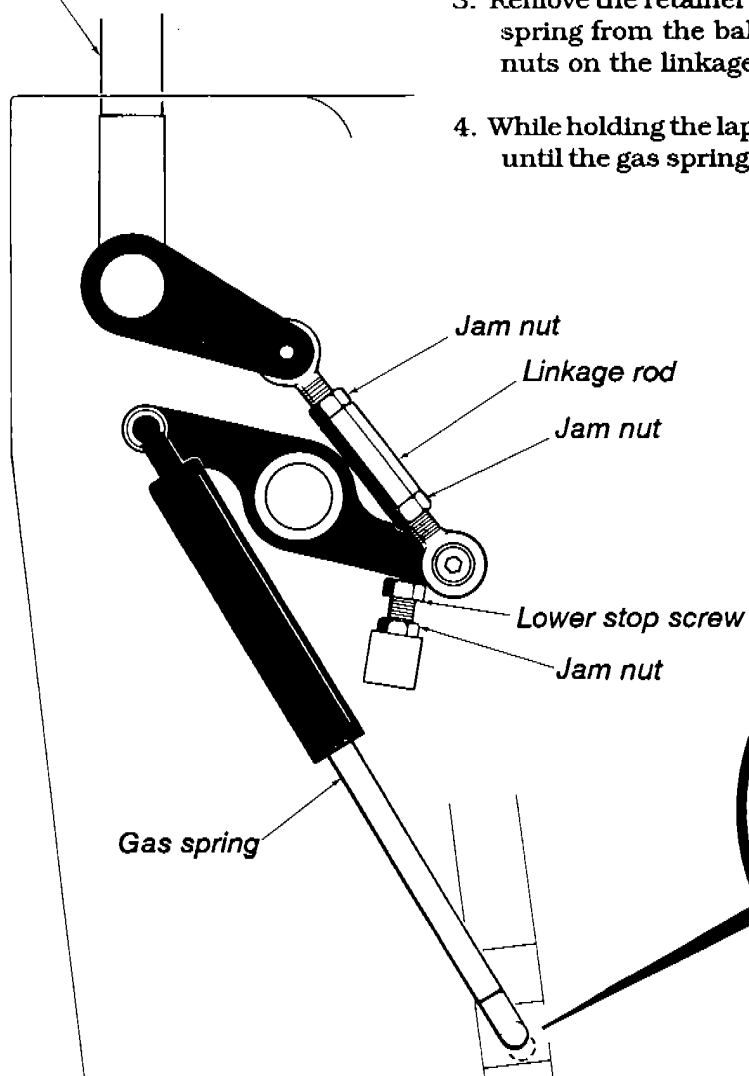
Improper adjustment of the lap bar linkage can cause damage to lap bar components and result in possible injury to passengers. Adjust the linkage using the procedure in this manual, exactly as described

**IMPORTANT:** *This procedure requires two people. Remove the capscrew to disconnect the air cylinder from the lock pawl and have a helper operate the lock pawl manually. The lap bar linkage is accessible through the covers on both sides and the back of each seat.*

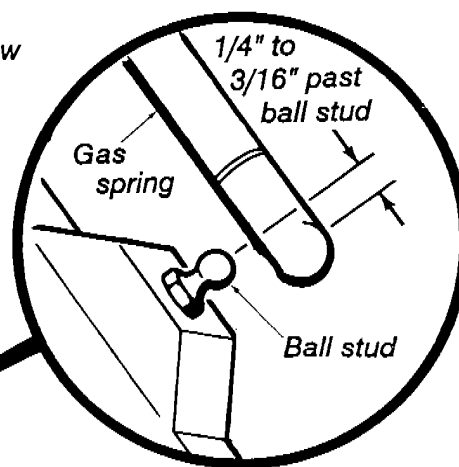
1. As the helper releases the lap bar, manually raise it. Hold the lap bar in position so it is aligned with the back of the seat frame (vertical position). **THE LAP BAR MUST BE HELD IN THIS POSITION DURING STEPS 3 AND 4.**



Hold lap bar  
in this position



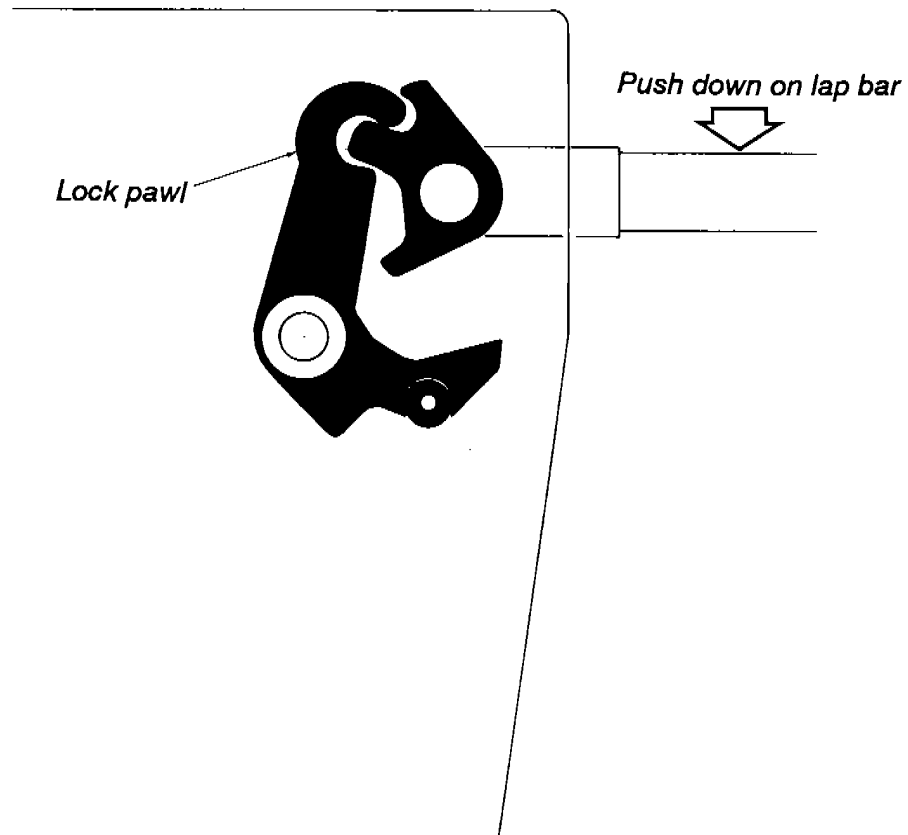
2. Loosen the jam nuts from both stop screws and turn the screws fully in.
3. Remove the retainer clip and disconnect one end of the gas spring from the ball stud on the frame. Loosen the jam nuts on the linkage rod.
4. While holding the lap bar in position, adjust the linkage rod until the gas spring is  $\frac{3}{16}$  to  $\frac{1}{4}$  inch past the ball stud.



5. Move the lap bar past the vertical position to install the gas spring on the ball stud. Install the retainer clip.
6. Turn the lower stop screw out against the bellcrank until the lap bar is again aligned with the seat frame (vertical position). Tighten the jam nut on the lower stop screw.



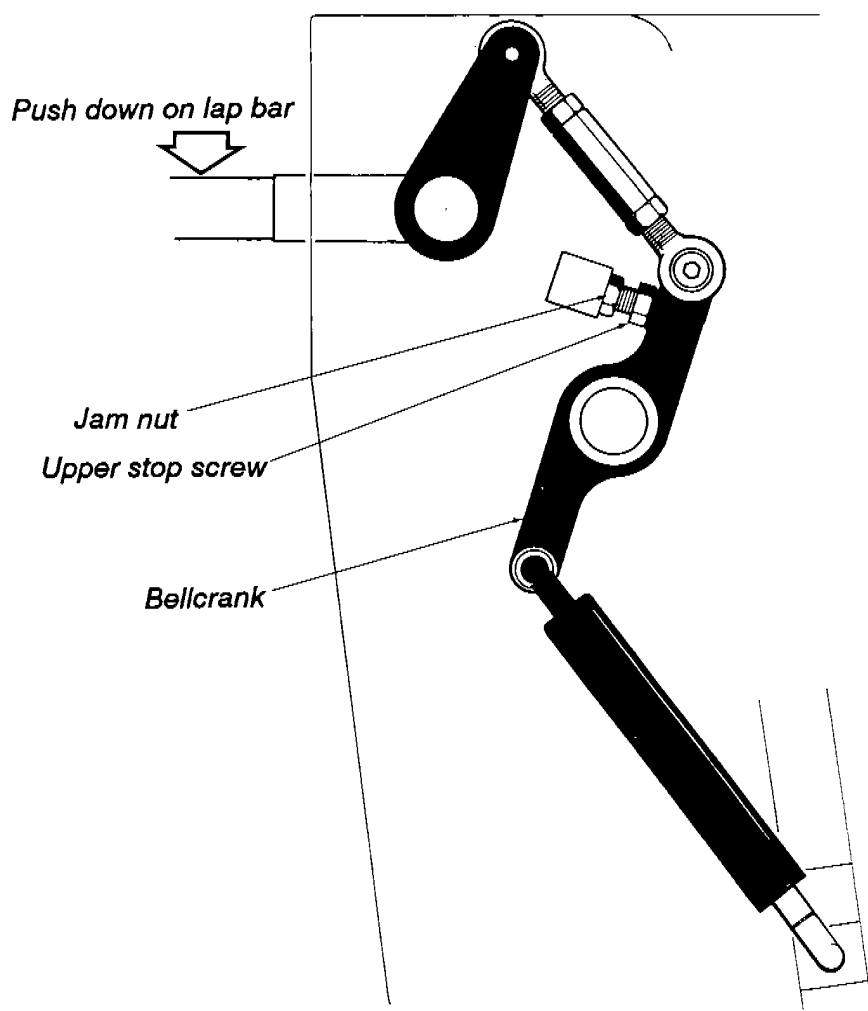
7. Manually release the lap bar and lower it. Manually engage the lock pawl as shown. **PUSH DOWN ON THE LAP BAR AND HOLD IT IN THIS POSITION DURING STEP 8.**



**IMPORTANT:** THE GAS SPRING MUST NOT OPERATE TO ITS LIMIT OF TRAVEL. If it does, repeat Steps 1 through 7 to obtain the correct turnbuckle length.

8. Turn the upper stop screw out until it just contacts the bellcrank. Turn it back in one-half turn to obtain the correct clearance ( $1/32$ ") Tighten the jam nut on the upper stop screw.

7. Connect the air cylinder to the lock pawl.



## Maintenance Hydraulic system

**IMPORTANT:** *For detailed instructions on maintenance of specific hydraulic components, refer to the "Vendor Literature" section of this manual.*

### Hydraulic reservoir oil level check

The oil level in the hydraulic reservoir must be checked at the sight glass weekly or at every set-up, whichever comes first. The oil must be visible within the limits of the sight glass. Add oil as required in accordance with the "Fluids and lubricants chart".

### Hydraulic reservoir oil change

The oil in the hydraulic reservoir must be changed once a year, or any time the oil has a milky appearance, indicating contamination by water.

Remove the drain plug on the bottom of the reservoir and allow the oil to drain completely. Remove the oil strainer screen and wash in solvent. Thoroughly flush the reservoir to remove any deposits of dirt, sludge, etc.

Replace the drain plug and the strainer screen. Fill with new oil in accordance with the "Fluids and lubricants chart".

### Oil filter change

A spin-on hydraulic oil filter is located at the hydraulic reservoir. This filter is among the most important components in the system. All of the oil in the hydraulic system passes through this filter and is cleansed of foreign particles. The removal of these particles greatly increases the service life of other components in the system. The filter must be replaced at least once a year or if the system becomes contaminated or dirty between changes (a milky appearance of the hydraulic oil indicates contamination by water).

## Maintenance

### Drive system

#### Drive gearbox lubrication

##### Oil level

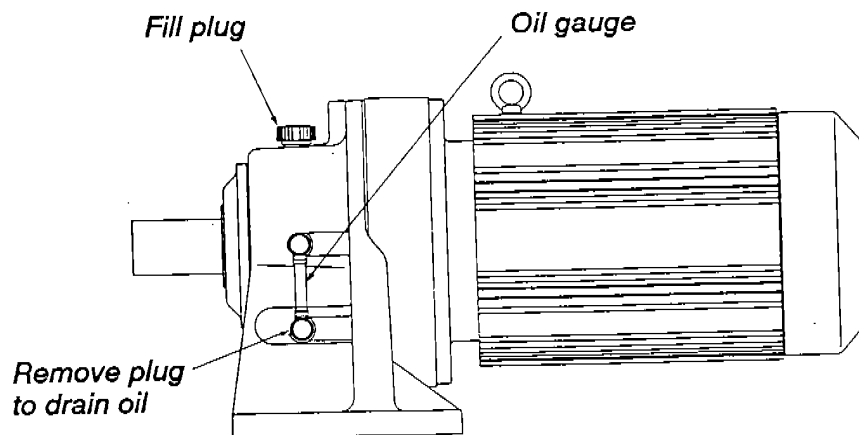
Check the oil level in each of the four drive gearboxes weekly, or at every set-up, whichever occurs first.

The oil level must be between the upper and lower red lines on the oil gauge on the side of the gearbox. Add oil as required in accordance with the "Fluids and Lubricants Chart" in this section. For detailed instructions, refer to the "Sumitomo Machinery Operation and Maintenance Manual".

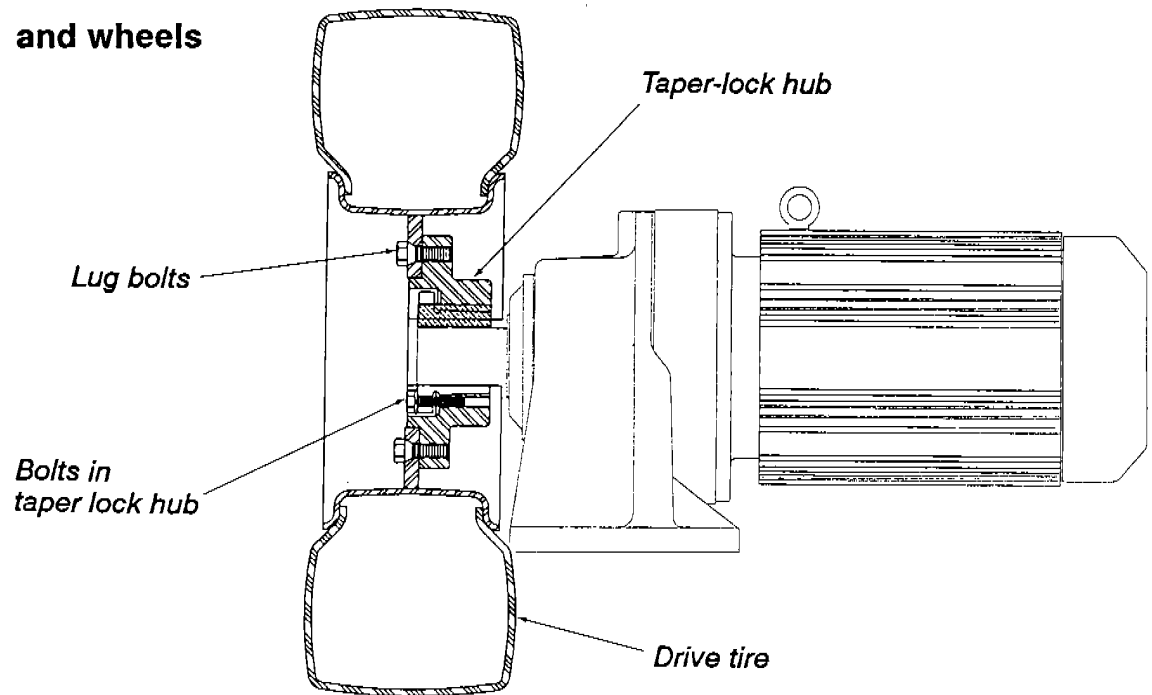
##### Oil change

Drain the oil in each gearbox and refill with new oil after the first two months of operation, and annually thereafter.

Remove the plug from the bottom of the oil gauge and allow to drain completely. Install the plug and fill with new oil in accordance with the "Fluids and Lubricants Chart" in this section. For detailed instructions, refer to the "Sumitomo Machinery Operation and Maintenance Manual".



## Drive tires and wheels



### Drive tire inspection

Visually inspect the drive tire for damage and wear weekly or at every set-up, whichever occurs first. In addition, the operator should check the tires for any unusual condition on a continuing basis. If a tire is damaged, or the tread is excessively worn, replace it.

### Drive tire inflation pressure

Check the inflation pressure in each of the four drive tires weekly or at every set-up, whichever occurs first. Maintain 50 psi pressure.

### Wheel lug bolt torque

Check the wheel lug bolts for tightness weekly, or at every set-up, whichever occurs first. Use a torque wrench to check the six lug bolts on each drive tire. Tighten to 22 ft-lbs.

### Wheel hub bolt torque

The drive wheels mount to taper-lock hubs on the motor shafts. Check the hub mounting bolts for tightness weekly, or at every set-up, whichever occurs first. Use a torque wrench to check the three bolts in each hub. Tighten to 348 in-lbs.

### **Stop bar adjustment**

The stop bars limit the upward travel of the drive tires to ensure smooth engagement of the tires against the keel of the vehicle.

**IMPORTANT:** *Excessive clearance at the stop bars can cause damage to the drives.*

Check the adjustment of the stop bars at every set-up.

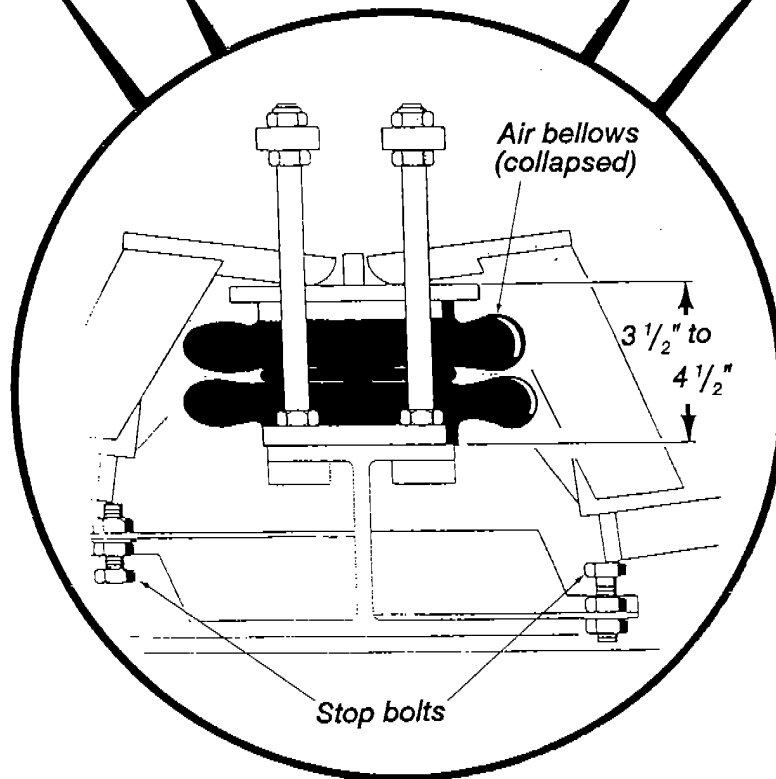
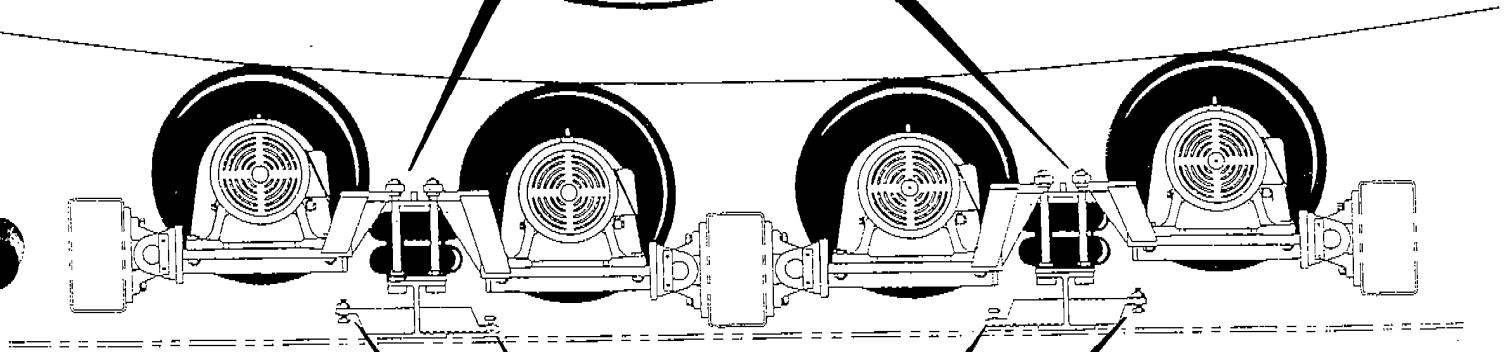
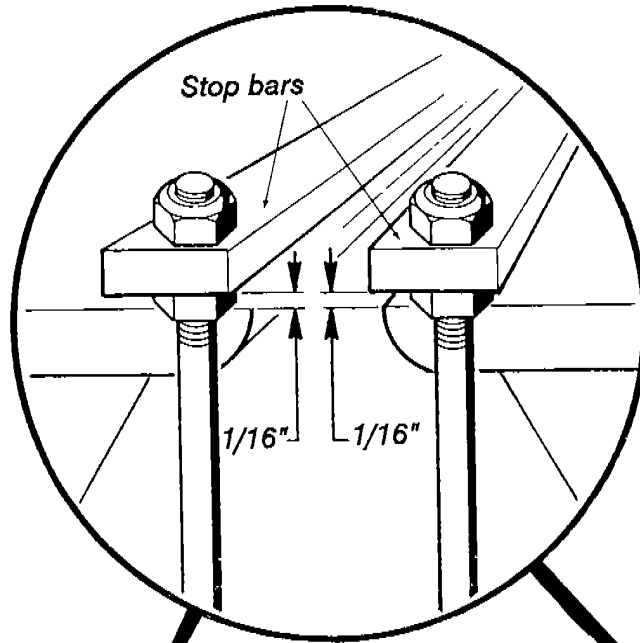
1. With the vehicle in its normal loading position and the control valve for the air bellows open, check the clearance between the drive frame and the stop bar. This clearance must be 1/16 inch.
2. If adjustment is required, loosen both upper nuts on one stop bar. Turn the lower nuts to obtain the correct clearance on both ends of the stop bar. Tighten the upper nuts.
3. Repeat the procedure for the other 3 stop bars.

### **Stop bolt adjustment**

The stop bolts limit the downward travel of the drive tires to prevent damage and accelerated wear of the air bellows.

Check the adjustment of the stop bolts at every set-up.

1. Close the control valve for the air bellows.
2. With the drive frame resting on the stop bolts, measure the height of the collapsed air bellows. The height must be between 3-1/2 and 4-1/2 inches.
3. If adjustment is required, loosen the jam nuts and turn the bolt to obtain the correct air bellows height. Tighten the jam nuts.
3. Repeat the procedure for the other three stop bolts.



## **Maintenance**

### **Vehicle air system**

*NOTE: The vehicle air system components are accessible through hinged floor panels on each side of the center modesty panel*

#### **Air system filter/regulator**

Drain the water from the filter/regulator weekly, or more often if necessary. Check the air system for correct air pressures as follows:

- 100 psi at the reservoir
- 40 psi at the regulator

#### **Air system lubricator**

Check the air system lubricator weekly and fill the reservoir with clean oil in accordance with the "Fluids and Lubricants" chart in this section.

Check the oil delivery rate and adjust as required. The lubricator should be adjusted to deliver one to two drops of oil per lap bar operation cycle.

#### **Air tank**

Drain water from the air tank weekly, or more often if necessary. Open the drain cock on the bottom of the tank until no water comes out.

Visually inspect the air tank and all tubes, hoses and fittings for leaks. Immediately repair or replace loose, broken or missing parts.

#### **Air compressor**

The air compressor requires no lubrication. Check the intake filter weekly, or at every set-up, whichever occurs first. Replace the filter as required..



## Drive air system

### Air system filter/regulator

Drain the water from the filter/regulator weekly, or more often if necessary. Check the air system for correct air pressures as follows:

- 100 psi at the reservoir
- 50 psi at the regulator

### Air tank

Drain water from the air tank weekly, or more often if necessary. Open the drain cock on the bottom of the tank until no water comes out.

Visually inspect the air tank and all tubes, hoses and fittings for leaks. Immediately repair or replace loose, broken or missing parts .

### Air compressor

The air compressor requires no lubrication. Check the intake filter weekly and replace as required.

# VEHICLE

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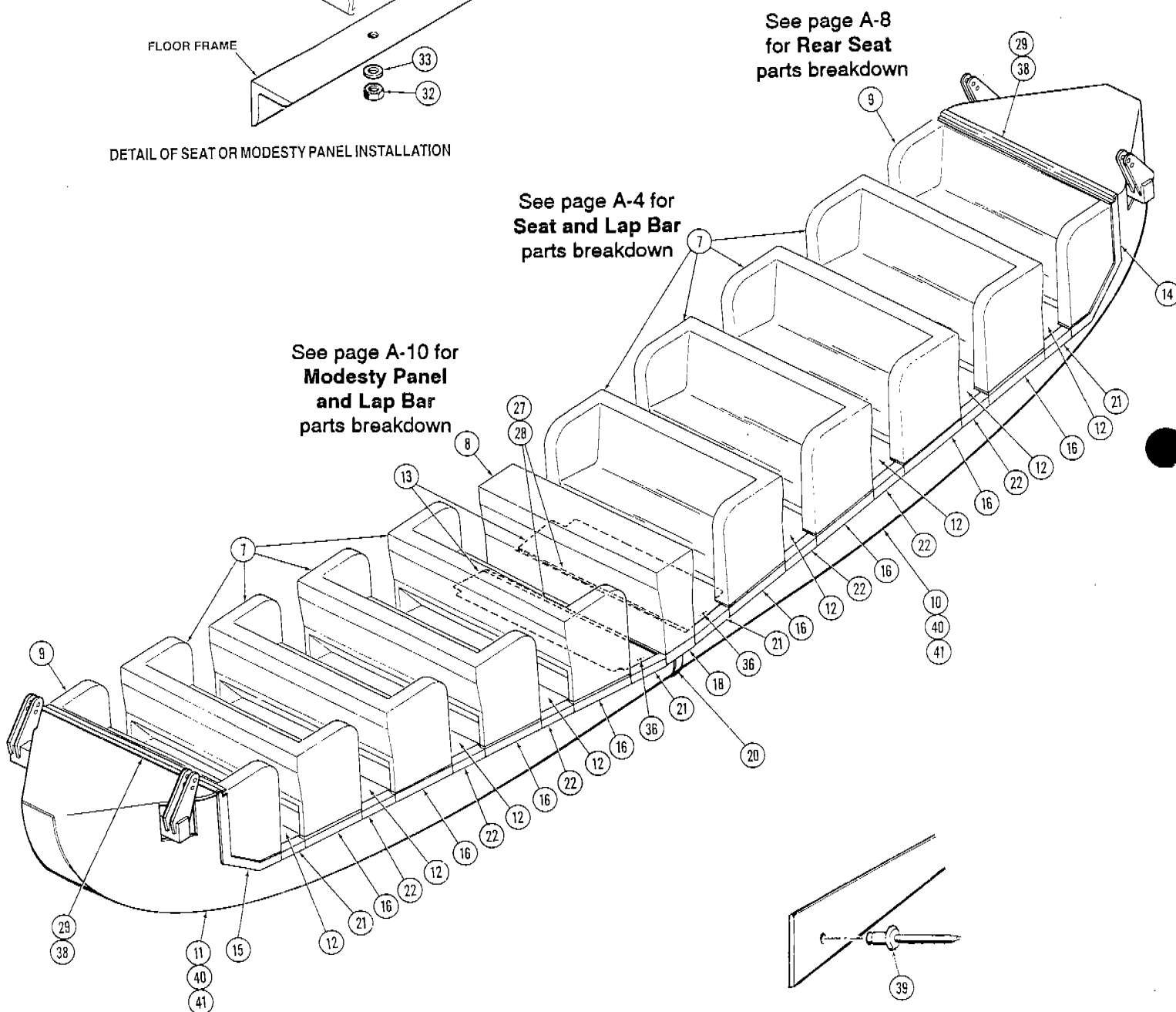
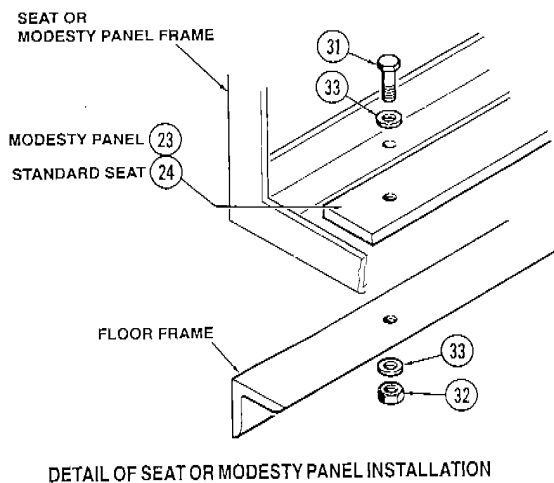
### *Chance Rides, Inc.*

4219 Irving  
P.O. Box 12328  
Wichita, KS 67277-2328

Phone (316) 942-7411  
or 1-800-242-6231

Fax (316) 942-7416

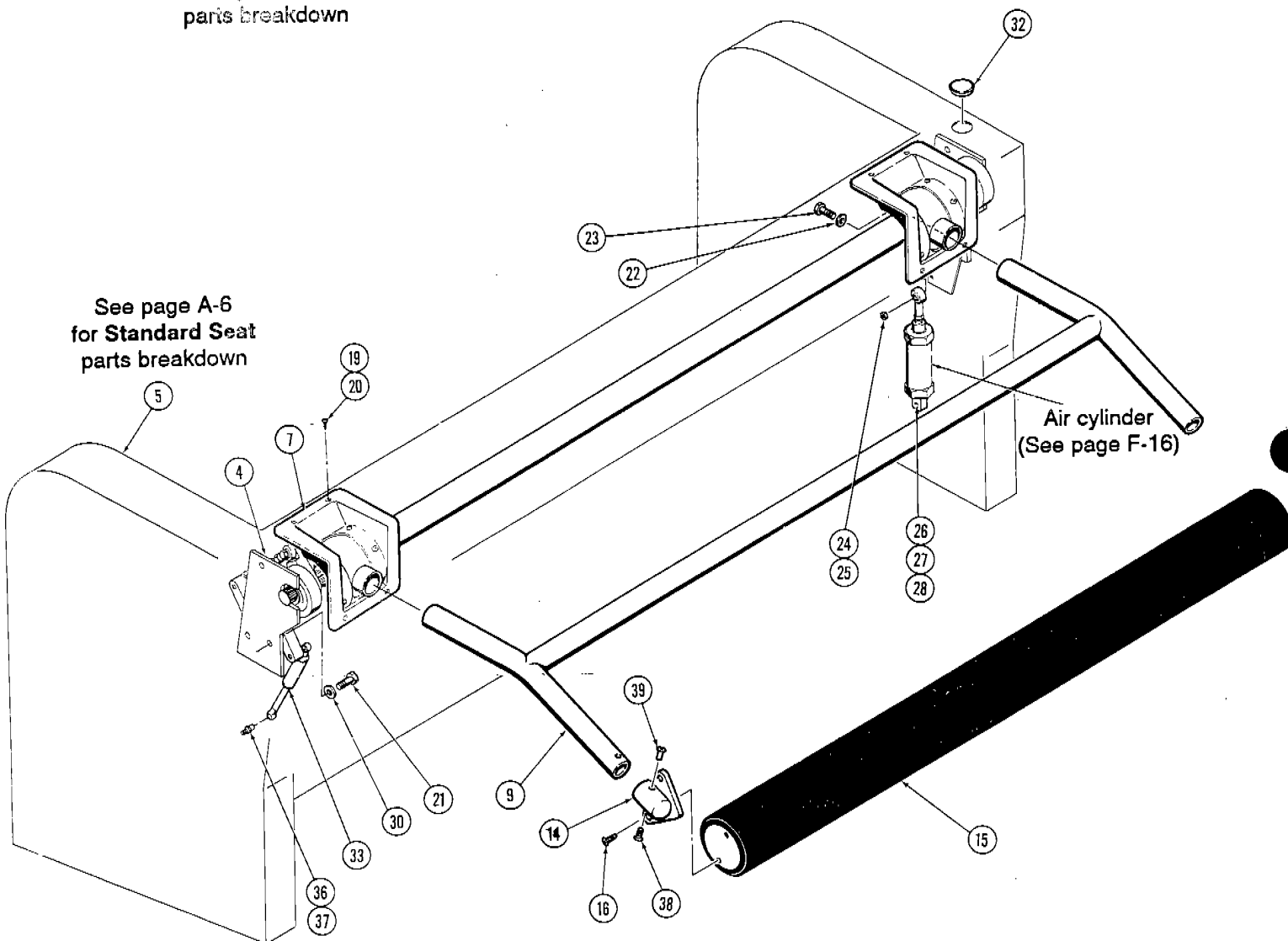
## A-2 Chance Rides, Inc.



Index number	Part number	Drawing number	Description	Quantity per assembly
7	36463400	407-105-001	SEAT & LAP BAR ASSEMBLY	8.00
8	36442900	407-105-002	MODESTY PANEL & LAP BAR ASSEMBLY	1.00
9	36489900	407-110-002	REAR SEAT ASSEMBLY	2.00
10	33566000	407-125-001	HULL F/GLASS 407-125-001	2.00
11	33566100	407-125-002	HULL F/GLASS 407-125-002	2.00
12	35369058	407-130-001	PLATE-TR,VEH 407-130-001	8.00
13	35369059	407-130-002	PLATE-TR,MODSTY 407-130-2MODESTY	2.00
	61407300		BUSHING NYLON 1 3/16 SNAP	2.00
14	38148000	407-135-002	TRIM-REAR SEAT 407-135-2	2.00
15	38147900	407-135-001	TRIM-REAR SEAT 407-135-1	2.00
16	38144800	407-132-002	TRIM-VEHICLE 407-132-002	16.00
18	38145000	407-132-004	TRIM-VEHICLE 407-132-004	2.00
20	38145500	407-132-006	TRIM-VEHICLE 407-132-006	2.00
21	31689500	407-133-001	CLOSEOUT-VEH 407-133-001	8.00
22	31689600	407-133-002	CLOSEOUT-VEH 407-133-002	12.00
23	36982600	407-164-001	SPACER-MODESTY 407-164-1	2.00
24	36982700	407-164-002	SPACER-STD SEAT 407-164-2	16.00
27	33357100	407-134-001	HINGE-VEH TR/PL 407-134-1VEHICLE TR	2.00
28	42204000		EXTRU TRIM FENCE	9.82
29	38147300	407-136-001	TRIM-REAR SEAT 407-136-1	2.00
31	60842400		HHCS 1/2-13 X2 GR5	44.00
32	64782400		LOCKNUT N/I 1/2-13 ZP	44.00
33	68531800		WASHER SAE 1/2	88.00
36	23964700		LATCH- ADJ GRIP(SOUTHCO)	4.00
40	66161000		RIVET 3/16	1.00
41	66139100		RIVET 1/4x3/4 STEEL/DOME	12.00

See page A-14  
for Lap Bar Pivot  
parts breakdown

See page A-6  
for Standard Seat  
parts breakdown



Air cylinder  
(See page F-16)

# PHARAOH'S FURY

## PORTABLE MODEL

MODEL NO. 407

SERIAL NO.

DATE OF MANUFACTURE

MAXIMUM PASSENGER CAPACITY: 40 ADULTS OR 80 CHILDREN (6,800 LB.)

MAXIMUM SEAT CAPACITY: 4 ADULTS OR 6 CHILDREN (680 LB.) - 10 SEATS

MINIMUM PASSENGER HEIGHT: 48 INCHES

MAXIMUM RIDE SPEED: 39.0 FT/SEC

MAXIMUM UNBALANCE: 2 SEATS (1,360 LB.)

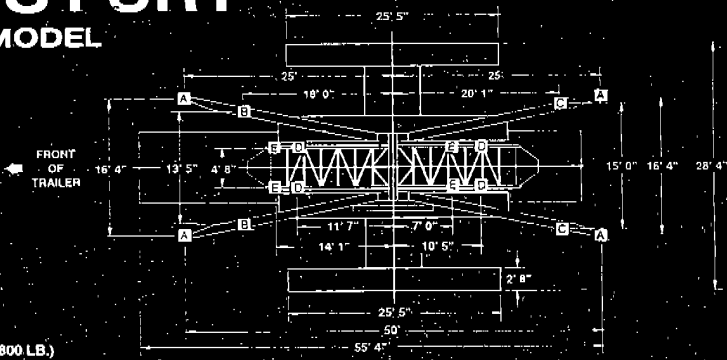
PROGRAMMED RIDE CYCLE: 1.5 MINUTES (SHORT PROGRAM)  
2.0 MINUTES (LONG PROGRAM)

MAXIMUM WIND SPEED: 25 MPH OPERATING - 50 MPH STATIC

POWER REQUIREMENTS: DRIVE 60 KW  
LIGHTS 25 KW  
208 VOLTS, 3 PHASE, 60 Hz

RIDE CLEARANCE DIMENSIONS: FRONTAGE WIDTH, GROUND: 60 FT.  
FRONTAGE WIDTH, AIR: 80 FT. AT 45 FT.  
HEIGHT: 56 FT. DEPTH: 31 FT.

MAXIMUM RIDE WEIGHT EMPTY: 56,000 LB.



FRONT OF TRAILER

MAXIMUM INDIVIDUAL VERTICAL GROUND LOADS (POUNDS)  
REFER TO INSTALLATION DRAWINGS FOR SPECIFIC FOOTING LOCATION AND LOADS

SYMBOL	DESCRIPTION	NO WIND OPERATING	25 MPH WIND OPERATING
A	MAIN TOWER PAD	26,000	35,000
B	STUB TOWER JACKS, FRONT	5,000	10,000
C	STUB TOWER JACKS, REAR	2,000	3,000
D	TRAILER JACKS, OPERATION	11,000	12,000
E	TRAILER JACKS, SETUP	17,500	

**MANUFACTURED IN THE U.S.A. BY CHANCE RIDES, INC. WICHITA, KANSAS**

Conforms with all applicable ASTM amusement ride standards in effect on date of manufacture.

### Ride information plaque

The ride information plaque is located on the roadside frame crossmember at the rear of the trailer. The plaque lists ride specifications, operating dimensions, ground loads, as well as model and serial number and date of manufacture. When ordering parts or requesting information from the CHANCE RIDES CUSTOMER SERVICE DEPARTMENT, always specify the model and serial number of your ride. Record this information in the spaces on the plaque shown.