

ALLAN HERSCHELL

CHANCE  
MANUFACTURING CO., INC.

Number:

Date:

34  
12-7-72

Superceeds:

Number:

Date:

## Service Information

Ride:

KIDDIE TANK RIDE - MODEL "C"

Subject:

ERECTION AND CARE

REFERENCES: KTC-100 Assembly Drawing  
KT-100-P Part Number Drawing  
KT-101 Foundation Drawing

### ERECTION & CARE OF KIDDIE TANK RIDE- MODEL "C"

Refer to print number (KTC-100) for general arrangement of parts and to (KT-100-P) for part number identification and lubrication instructions.

Select a spot that is reasonably level, especially for the center of the ride.

Place the circular centerpole (KA-149) into position. This base is marked to show the position of the #1 jackstand (the jackstand to which switch box attaches for operating the ride) which should be located for the convenience of the operator.

Fasten the centerpole assembly (KB-118) securely to the centerpole base assembly (K-149) by means of the four studs. Position these assemblies so that their markings match.

Place the drive unit into position and bolt it down tightly after pinion (KA-147) is properly meshed with ring gear. Check the "V" belts on the drive for proper tension. These have been set correctly at the factory, but when new, adjustment should be made frequently until the initial stretch has been taken up. These are not to be too tight and need very little attention during the season. Caution: Any adjustment of the belt drive should be done with the motor. Do not change the position of the gear reducer.

Place the ring gear (KA-153) on top of the 6" dia. fiber collar of the centerpole assembly (KB-118).

Level the base (KA-149) and plumb the centerpole (KA-154) using shims under the circular base (KA-149) if necessary. On park rides, four 7/8" dia. holes are provided in the base ring (KA-149) which can be used for bolting down after leveling. Use expansion bolts if ride is mounted on a concrete slab (KT-101).

Factory and General Office, 4219 Irving, Box 2397 Wichita, Kansas 67201

Area Code (316) 942-7411

Sales Office:

103 Ross Ave., Dallas, Texas 75202

Area Code (214) 742-3802

adjusting base (KA-160) into position. Continue with the balance of the jackstands and uprights.

All jackstands must be leveled radially as they are placed. Then level also from one jackstand to the other beginning from #1, using the level on the straight edge furnished with the ride.

Place platform sections beginning with platform from #2 to #3 jackstand continuing around the ride to jackstand #10, then place both platforms between #1 and #10 and #1 and #2 jackstands, raising both platform ends together above jackstand #1. When matched at this point then lower both together to rest on #1 jackstand and use the adjustable clamp to hold them down.

The cornice sections are numbered according to the upright pipes to which they attach and must be put on in order of their numbers. Attach the head shields. The spot light brackets are also marked to suit the uprights. These must also be placed in their proper order. Then plug in all plugs to complete the circuit.

Attach the switch box to #1 upright and make up the lead connections and connect. Twist lock connectors complete are furnished for these connections.

Spread tent top over the centerpole. Place the tent pole on top of the centerpole and raise the tent about half way. When in this position hook the outside edge of the tent in the loops provided on the inside of the cornice, then raise the tent to its proper height.

Place 8 sweep arms (KT-114) between angles on sweep plate (KT-110) and fasten with the six 1/2" x 3" long hex hd. capscrews and locknuts. Be careful not to injure the electric cord inside the pipe. Assemble 7 tie rods (KT-135) and 1 adjustable tie rod between sweep arms (KT-114) with the 1/2" rivets and safety springs. Use adjustable tie rod to remove looseness between sweep arms.

Fasten 8 Tank cars (KT-113) to sweep arms with 1/2" x 3" long hex hd. capscrews and locknuts.

Connect 16 make twist lock jumper cords from Tank cars to sweep arms and from sweep arms to rotating head.

Attach sweep canvas with springs to the projecting eyes on the sweep arms.

**CAUTION:** The wiring on this ride has been arranged for a separate connection to the lights from that of the drive motor. The ride is designed to run on 60-cycle, 220 volt current (or 110 volt). Satisfactory results might not be obtained on lines having a considerable drop in voltage, especially when operating on a 110 volt line, and to insure proper operation, voltage of 105 to 115 must be maintained.

Motor connections are for 220 volts when ride leaves factory. If 110 volt current must be used, motor connections must be changed to suit.

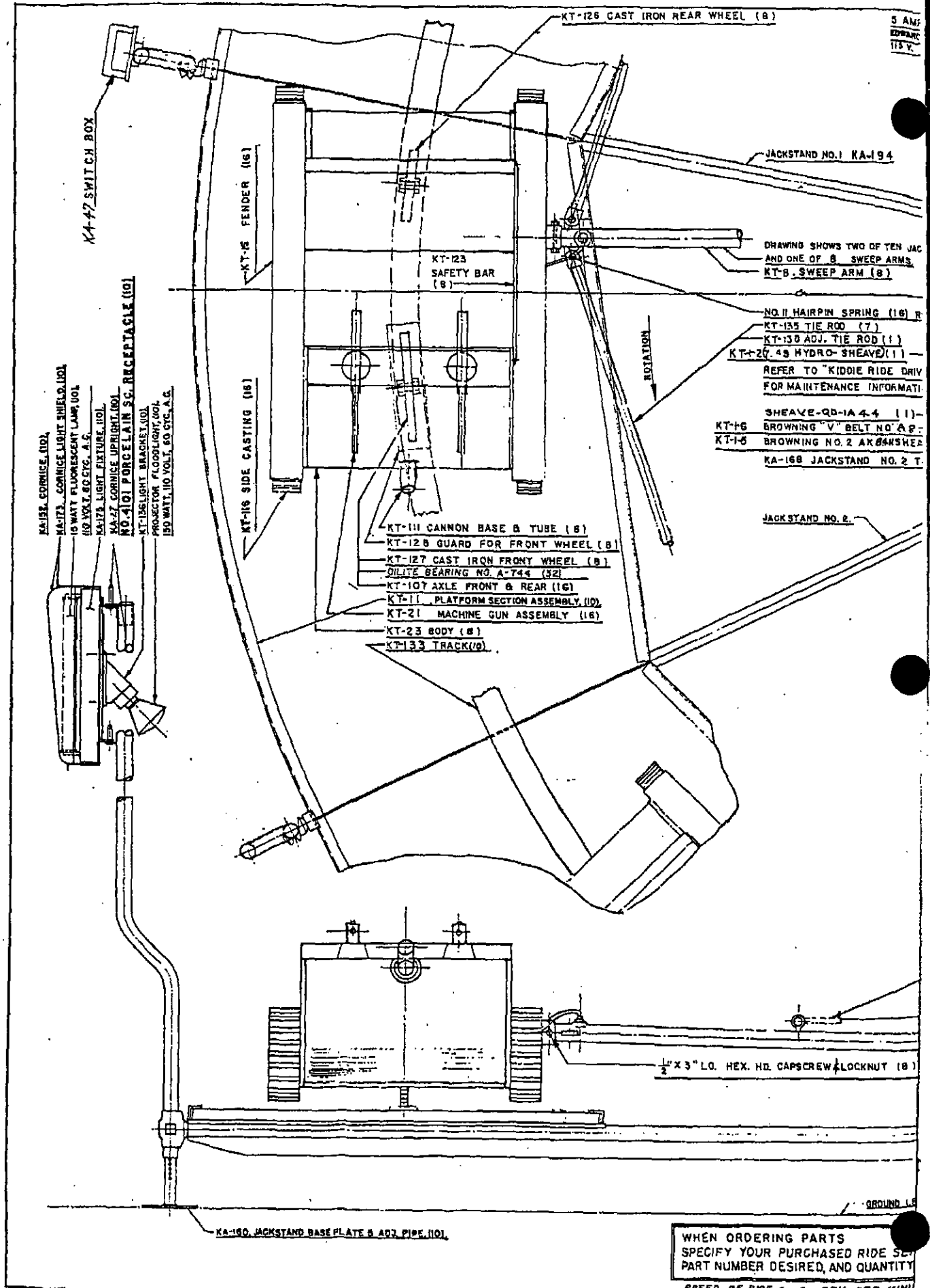
Wiring diagram on motor name plate.

**BUZZERS FOR GUN OPERATION:**

If gun buzzers burn out, replace with buzzer of same voltage and cycle.

Standard buzzer equipment on ride is: 24 V, 60 cycle - connected 24 volts at transformer for 60-cycle operation.

24 V., 60-cycle - connected 16 volts at transformer for 25-cycle operation.



5 AMP  
EDBARK  
173 V.

- KA-158. CORNICE (10)
- KA-173. CORNICE LIGHT SHIELD (10)
- 15 WATT FLUORESCENT LAMP (10)
- 100 VOLT, 60 CYC. A.C.
- KA-174. LIGHT FIXTURE (10)
- KA-177. CORNICE UPRIGHT (10)
- NO. 4101 PORCELAIN S.C. RECEPTACLE (10)
- KT-125 LIGHT BRACKET (10)
- PROJECTOR FLOODLIGHT (10)
- 150 WATT, 110 VOLT, 60 CYC. A.C.

KA-172 SWITCH BOX

KT-16 FENDER (16)

KT-116 SIDE CASTING (16)

- KT-111 CANNON BASE & TUBE (8)
- KT-128 GUARD FOR FRONT WHEEL (8)
- KT-127 CAST IRON FRONT WHEEL (8)
- DELITE BEARING NO. A-744 (32)
- KT-107 AXLE FRONT & REAR (16)
- KT-11 PLATFORM SECTION ASSEMBLY (10)
- KT-21 MACHINE GUN ASSEMBLY (16)
- KT-23 BODY (8)
- KT-133 TRACK (10)

KT-126 CAST IRON REAR WHEEL (8)

KT-123 SAFETY BAR (8)

JACKSTAND NO. 1 KA-194

DRAWING SHOWS TWO OF TEN JACKSTANDS AND ONE OF 8 SWEEP ARMS.  
KT-6 SWEEP ARM (8)

ROTATION

- NO. 11 HAIRPIN SPRING (16) R
- KT-135 TIE ROD (7)
- KT-130 ADJ. TIE ROD (1)
- KT-20 48 HYDRO-SHEAVE (1)
- REFER TO "KIDDIE RIDE DRIVE FOR MAINTENANCE INFORMATION"
- SHEAVE-QD-1A 4.4 (1)
- KT-16 BROWNING "V" BELT NO. A.P.
- KT-15 BROWNING NO. 2 AXON SHEAVE
- KA-168 JACKSTAND NO. 2 T.

JACKSTAND NO. 2

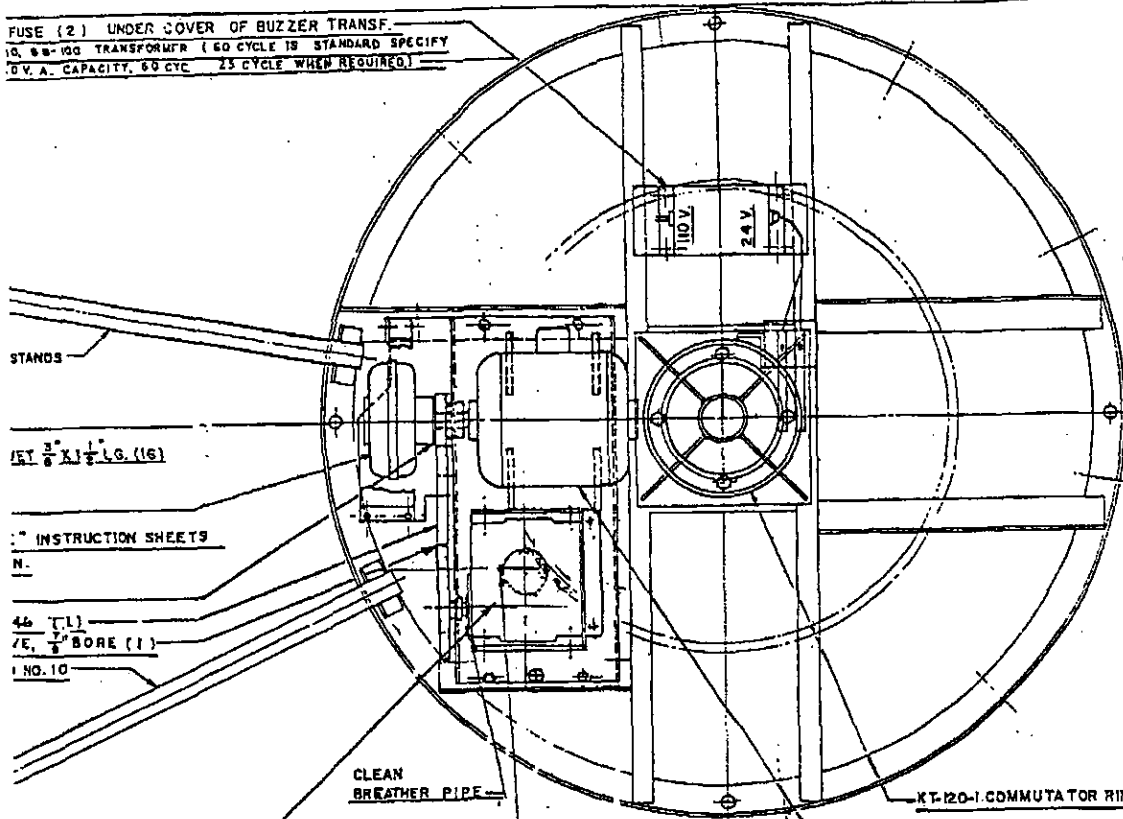
1/2" X 3" LG. HEX. HD. CAPSCREW & LOCKNUT (8)

KA-160 JACKSTAND BASE PLATE & ADJ. PIPE (10)

GROUND L.F.

WHEN ORDERING PARTS  
SPECIFY YOUR PURCHASED RIDE SET  
PART NUMBER DESIRED, AND QUANTITY  
SPEED OF RIDE = 5 REV. PER MIN.

FUSE (2) UNDER COVER OF BUZZER TRANSF.  
 10, 0.5-100 TRANSFORMER (60 CYCLE IS STANDARD SPECIFY  
 0V. A. CAPACITY, 60 CYC. 25 CYCLE WHEN REQUIRED.)



STANDS  
 1/2\"/>

CLEAN  
BREATHER PIPE  
 DRAIN PIPE

FRAGMENTARY  
PLAN VIEW

KT-120-1 COMMUTATOR RINGS (2).

KT-1-1 LINK-BELT WORM REDUCER  
 SIZE U-300 RATIO 15 1/2 TO 1  
 R.H. ASSEMBLY, TORQUE APPLICATION,  
 (TO BE USED IN OVERHUNG APPLICATION).  
 1 1/2\"/>

GE. TYPE K MOTOR FRAME 184  
 1/2 HP, 1800 RPM, 60 CYC. BALL BRG.  
 OPEN 40° C RISF HORIZONTAL,  
 3PH 220/440V. OR 1PH. 115/230V.

MAINTAIN GREASE BETWEEN HIGH AND LOW LEVEL.  
 USE NO. 600W GREASE IN NORMAL WEATHER,  
 OR MIXTURE OF ONE HALF SAE NO. 40 AND  
 ONE HALF OF NO. 600W IN COLD WEATHER.  
 DRAIN AND REFILL AFTER FIRST 100 HOURS  
 OF OPERATION.



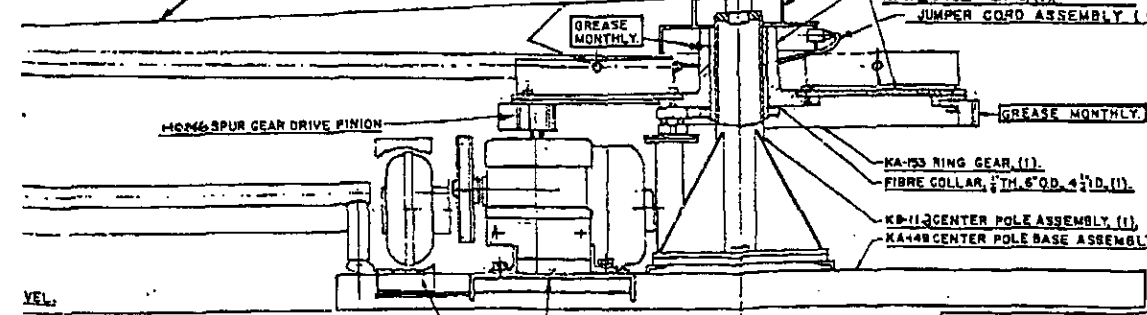
LD-147 SPRING (8) B S HOOK S (18)  
 HEX. HD. CAPSCREW 1/2\"/>

GREASE MONTHLY

KA-154 CENTER TENT POLE ASSEMBLY (1)  
 KT-18 TWISTLOCK HEAD (1)  
 KT-117 SWEEP HUB (1)  
 KT-110 SWEEP PLATE (1)  
 JUMPER CORD ASSEMBLY (8)

GREASE MONTHLY

MOTOR SPUR GEAR DRIVE PINION



KA-153 RING GEAR (1)  
 FIBRE COLLAR, 1/2\"/>

KT-125-1 GUARD (1)  
 KT-125 MOTOR BASE (1)

SECTIONAL ELEVATION.

VE.  
 SERIAL NUMBER,  
 DESIRED.  
 VE.

ALLAN HERSCHELL CO. INC.  
 AMUSEMENT DEVICES IN TOWNSHIPS, N.Y.  
 KIDDIE TANK RIDE  
 PART NUMBERS AND  
 LUBRICATION INSTRUCTIONS.  
 DRAWN BY H.T.R. DATE 10-16-62  
 CHECKED BY S.W. DATE 10-16-62  
 REVISION NO. 04 KT-100-FE



*Amusement Rides*

**ALLAN HERSHELL COMPANY INC.**

and

**THE MINIATURE TRAIN CO. Division**

104 OLIVER STREET

NORTH TONAWANDA, NEW YORK



MFG: ALLEN HERSHELL

BFI #98

Bulletin No. \_\_\_\_\_

RIDE: MERRY GO ROUND

Date 1/14/97

# Service Bulletin

Ride KIDDIE MERRY-GO-ROUND Subject ERECTION File \_\_\_\_\_

FREE

received  
12/22/97

REFERENCE:  
KMG-132 Assembly Drawing  
KMG-100PB Parts Drawing

JAN 13 1998

## ERECTION INSTRUCTIONS FOR KIDDIE CARROUSEL

1. Lay the foundation in place which consists of two steel cross members and are commonly called Mud Sills (KMG-66). These sills should be placed on solid level ground, concrete slab or concrete piers. If the ride is erected on irregular ground, the five wooden sill blocks furnished must be used under ends and center of mud sills to obtain necessary clearance for horse pipes which will project under the wooden platforms. Cross the two mud sills so that the painted arrow on one joins the painted arrow on the other at their centers. Use a carpenter's level to make certain that mud sills are level in all directions and using shims as necessary under ends of mud sills.

2. Install power unit and reduction gear assembly in position by mating pins welded on top of mud sills to holes drilled in power unit base. Entire unit is properly aligned when base and pins are mated.

3. Installation and assembly of center pole:

(a) Lay center pole (KMG-152) flat on proper mud sill so lower hinge mates with hinge casting on mud sill center. Insert hinge bolt to lock in place. Support center pole on wooden folding buck furnished, placed just below hole where column support hub attaches

(b) Slide Column Support Hub and Bearing Assembly (KMG-44) over top of center pole so that bearing is facing top. Align hub so painted arrow on center pole mates with arrow painted on hub. Insert pin through hub and center pole in drilled holes located at top of painted arrow on hub. Tighten two set screws on either side of pin. Pack bearing with a good grade of cup grease.

(c) Sweep Hub (KMG-46) is placed over column support hub so that crank bearing studs (KMG-68) are facing top of pole.

(d) Slide Bevel Gear (KMG-47) over top of center pole so that gear teeth are facing top of pole. Lock bevel gear into mating slots of column support hub and tighten set screws.

(e) Commutator Assembly (KMG-179) is placed on pole so junction box faces top of pole and bottom edge of commutator rests on bevel gear. Junction box should be aligned with large hole in center pole and final positioning will be made later.

(f) Install eye bolt in hole near top of center pole. Apply two nuts on bolt shaft and tighten from inside of center pole.

(g) Install Center Pole Top (KMG-55), Spindle (KMG-63) and bearing on top of center pole. Firmly position assembly and tighten four set screws. Grease bearing with good grade of cup grease.

(h) Place Spider (KMG-62) over center pole top. Center pole is now "dressed" and ready to raise into vertical position by using several men, block and tackle secured to eye bolt in top of pole or a truck with a boom. When using block and tackle it is important to secure opposite end to solid immovable object to prevent accidents.

(i) Place four Centerpole Brace Pipe Legs (KMG-164) in properly numbered sockets in center pole column support hub. Insert pins through bracket and foot of each leg. Check vertical position of center pole with carpenters level and shim outer ends of mud sills as necessary.

4. Hook one long and one Short Sweep Hanger Rod (KMG-69 1 & 2) opening #1 of spider at top of center pole. Insert #1 Sweep Arm (KMG-116) into mating numbered slot of the ring gear of center pole by using flat end of sweep arm. Painted numbers on sweep arms should be facing up and matched to numbers on ring gear. It is advisable to hang a set of sweep hanger rods, insert sweep arm and connect rods to sweep in individual sequence from #1 through #12.

5. Place sweep arm Spacer Rails (KMG-198) over pins on top of sweep arms. Note that there is a long and short spacer rail for each sweep. The spacer rails that do not have bearings are placed below sweep arms #1-2 and #7-8 to allow for chariots that are placed below.

6. The outside scenery panels are called Cornices and are hung between sweeps in sequence to mate with sweep numbers. The cornices are positioned by large flat keys. Light shields are hung at cornice joints and fastened with thumb screws at bottom edge of shields. Note that cornices are numbered and must be placed in proper sequence while light shields are interchangeable.

7. Canvas tent top is spread over top of sweep rods with smooth side of canvas facing top. After canvas is spread over rods insert Tent Pole (KMG-100) over top of spider. Block and Tackle is attached to eye bolt at top of tent pole with the single block attached to the metal bale ring in the center of the tent top. With block and tackle slightly raise tent top and evenly distribute canvas over top of sweep rods. Hook tent by its snaps around outer edges to the tops of cornices and then raise to proper position with block and tackle using care not to damage canvas. Secure block and tack rope to sweep to hold top in position.

8. Install long and short Crankshafts (KMG-147 1 & 2). Alternate crankshafts with large and small bevel gears. Note that no crankshafts are used between sweeps #1-2 and #7-8. The crankshaft Tee bearings next to the bevel gears are placed over the vertical studs on the ring gear and set screws are tightened to lock in position. Care should be taken to alternate crankshaft throws 180 degrees from each other so jumping horses will have proper action. An easy method of alternating crankshaft throws is to have one pointing down, the next up, etc., and the carousel should not be moved while crankshafts are being installed.
9. Install Brush Assembly (KMG-154) in marked location on top of sweep hub. Brush fingers are aligned with metal bars on commutator collar by moving collar into proper position on center pole and tightening set screws. Insert one end of electrical harness cable through large hole near top of center pole and draw out through a large hole near bottom. The plug at top end is joined to commutator junction box and plug at bottom will be joined to switch box.
10. Hook Platform Support Rods (KMG-70) to eyes welded on underside of sweep arms. Place metal platform support channels in place over lower nuts on ends of platform support rods. The platform support channels have one end beveled and this should be facing outside of carousel. Wooden platforms are now positioned over support channels with top nuts being drawn down to secure into position. Note that chariot platforms contain metal keyways and are placed under sweeps #1-2 and #7-8. Hook Sway Rods (KMG-153-2) to #2 and #8 sweep arm eyes and secure lower ends to platform support channel nuts.
11. Insert Horsepipe Rods (KMG-75) through horse body so that bearing is on top. Insert the L Shaped metal pin through rod below horse and lower horse on rod until pin elbow fits into holes drilled in belly of horse. Hang complete assembly to crankshaft throw and tighten top set screw immediately. Small horses should be used on inside row and large horses placed on outside.
12. Install chariots on platform between sweeps #1-2 and #7-8. Lock in place on platform by inserting base pins into metal keyway slots in platform and push into restricted ends of key ways.
13. Insert Pinion Gear Bracket (KMG-77) shaft (commonly called "banjo") through Vertical Drive Shaft (KMG-79) bearing assembly. Fit drive shaft base over pins on drive shaft collar on gear reducer. Lift pinion gear bracket (banjo) and bearing assembly up drive shaft and fit banjo foot in pocket on column support hub. Make certain banjo foot is well seated in its pocket and tighten set screw. The two vertical Allenhead set screws in the split bearing are tightened and then the set screw in the bearing face is tightened. Install two Support Legs (KMG-160) to banjo shaft with the red painted leg being installed first. The top of support legs are placed over the banjo bracket and the bottom of legs are bolted in place on mud sills. The set screws at top of support legs are tightened to secure legs in position.

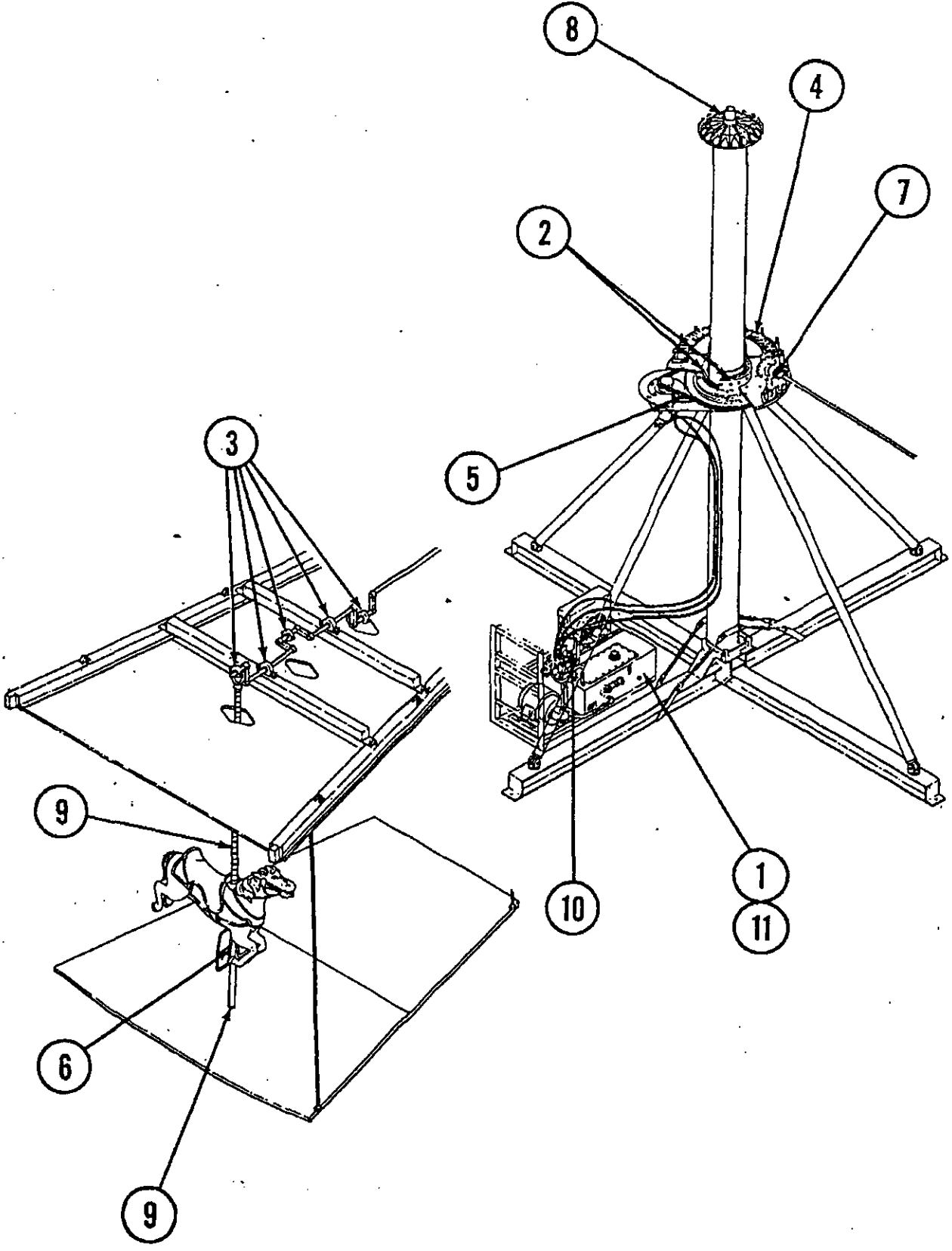


14. Bolt switch box assembly to metal plate welded to mud sill leg. Connect electrical harness cable plug leading out of bottom hole in center pole to switch box as marked. Short electrical cable is hooked to power unit and switch box as marked. Electrical power source is connected to switch box as marked.

15. Canvas side wall is hooked to eyelets on sweep arms and then rolled to the top and secured to sweep arms with rope ties.

16. Lubricate entire carrousel with a good grade of cup grease (Gargoyle AA #2) and oil all crankshaft bearings. Proper lubrication is important for maintenance free operation and refer to drawing KMG-100PB for lubrication points and frequency.

# Maintenance Schedule - Rides With Hydraulic Drive



## Lubricants Chart

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

**IMPORTANT:** In addition to the following items, certain components require special lubricants. Refer to the "Vendor Literature" section of this manual for lubricant specifications for specific components.

COMPONENT	SPECIFICATION
All Zerk Fittings and Bevel Gear	No. 2 Lithium Base Grease
Hydraulic Fluid	Non-detergent motor oil, API Service Classification MS, SAE 10W  Examples: D.T.E. - 24 Mobil 10-10W Universal Hydraulic Fluid
Telescopes	Any high quality, multi-purpose machine oil - SAE 20W or SAE 30W
Drive Chain and Sprockets	Any high quality industrial drive chain lubricant made for extreme-pressure, low speed operation
Gearbox (Rides without hydraulic drive)	Multi-Purpose Gear Oil MIL-L-2858 SAE 90-140
Fluid Coupling (Rides without hydraulic drive)	Engine Oil - A.P.I. Service Classification MS - SAE 5W

# Maintenance Schedule - Rides With Hydraulic Drive

1750  
6-850

NOTE: Open the manual valve at the hydraulic motor to allow hand rotation of the ride for lubrication.

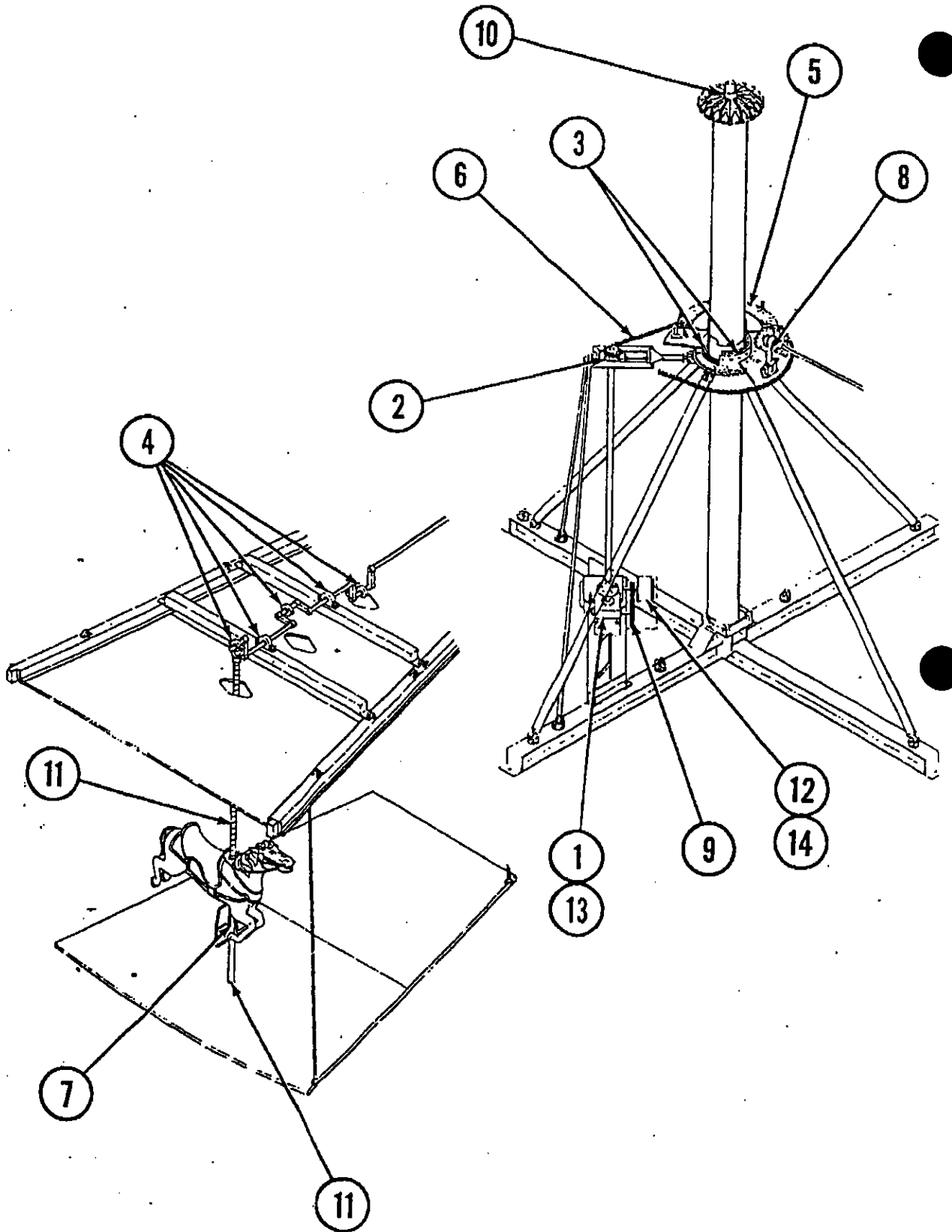
IMPORTANT: In addition to the following items, certain components require scheduled maintenance. Refer to the "Vendor Literature" section of this manual for maintenance schedules for specific components.

REF. NO.	COMPONENT	SERVICE REQUIRED	SEE PAGE	FREQUENCY
1	HYDRAULIC OIL RESERVOIR	Check level at sight glass. Fill as required	5-6	Daily
2	SWEEP HUB BEARING ZERKS (2 Places)	Grease	4-4	Weekly, or at every set-up, whichever occurs first
3	CRANKSHAFT BEARING ZERKS	Grease	4-4	
4	BEVEL GEAR	Grease teeth evenly by hand	4-4	
5	DRIVE CHAIN	Lubricate and check tightness	4-14	
6	TELESCOPES (30 Places)	Oil	4-4	
7	TEE BEARING SET SCREWS (12 Places)	Check tightness	4-4	
8	SPIDER THRUST BEARING ZERK *	Grease	4-4	
9	HORSE PIPES AND TELESCOPES	Inspect horse hanger hooks and telescope locks	4-13	
10	HYDRAULIC OIL FILTER **	Replace with a new filter	5-6	
11	HYDRAULIC OIL RESERVOIR	Drain the reservoir, clean the strainer and refill with new oil	5-6	Once per season or every 6 months whichever occurs first

\* Lower the canvas and remove the tent pole if required to obtain access to the zerk.

\*\* Replace the hydraulic oil filter after the first two weeks of operation and at the regular interval thereafter

# Maintenance Schedule - Rides Without Hydraulic Drive



## Maintenance Schedule - Rides Without Hydraulic Drive

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

REF. NO.	COMPONENT	SERVICE REQUIRED	SEE PAGE	FREQUENCY
1	GEARBOX	Check fluid level. Fill as required	4-15	Weekly, or at every set-up, whichever occurs first
2	DRIVESHAFT BEARING ZERK	Grease	4-6	
3	SWEEP HUB BEARING ZERKS (2 Places)	Grease	4-6	
4	CRANKSHAFT BEARING ZERKS	Grease	4-6	
5	BEVEL GEAR	Grease teeth evenly by hand	4-6	
6	DRIVE CHAIN	Lubricate and check tightness	4-14	
7	TELESCOPES (30 Places)	Oil.	4-6	
8	TEE BEARING SET SCREWS (12 Places)	Check tightness	4-6	
9	DRIVE BELT	Check belt tension	4-15	
10	SPIDER THRUST BEARING ZERK *	Grease	4-4	Monthly, or at every set-up, whichever occurs first
11	HORSE PIPES AND TELESCOPES	Inspect horse hanger hooks and telescope locks	4-13	
12	FLUID COUPLING	Check for leaks. Fill as required	4-15	
13	GEARBOX **	Drain and refill with new oil	4-15	Once per season or every 6 months whichever occurs first
14	FLUID COUPLING	Drain and refill with new oil	4-15	

\* Lower the canvas and remove the tent pole if required to obtain access to the zerk.

\*\* Drain, flush and refill the gearbox after the first 100 hours of operation

## Safety

The following is a list of a few general selected rules which should be adhered to by everyone.

Remember that in the long run the key to a safe and successful operation is to have well-trained and well-supervised employees.

### General Safety Guidelines

1. All work must be done 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 it is unsafe, or that unsafe conditions can develop.
3. Perform the manufacturer's recommended maintenance procedures at the intervals and in the manner specified 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. 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, use a safety belt.
10. Where work to be performed is hazardous, at least two men shall work together.
11. If guards must be removed from equipment, make sure they are replaced before leaving the job.
12. Clean up after each job, disposing 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.

## Troubleshooting Procedures

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

1. Have ride serial number and name available.
2. Have manual ready to use as reference.
3. If ride was formerly owned - by whom? (Chance records will 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 telephone number ready at which you can be reached.
6. Have shipping instructions ready (how, when, and where to ship parts).
7. Have 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 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 one direction only; does the ride run but has 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 may cause this, as well as all items that must be checked before any calls are made to the factory. Use this chart to try and determine the cause. It can save several expensive phone calls or a more expensive visit by a factory representative, as well as valuable time.