



Progressive Training Program

Course 4: Silver

Kōmbo Family Coaster

Standard Operating Procedures

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Section 1: Introduction to Kōmbo Family Coaster

1.1 Kōmbo Family Coaster Fact Sheet

Kōmbo Theming

The name *Kōmbo* is Swahili for “curved or “twisted,” and is a reference to the figure-8 layout of the ride track. The coaster train is themed as a convoy of individual safari jeeps. The station is themed as a building in a small African village. Each aisle on the loading platform is numerically labeled with the Swahili word for each number printed below the corresponding digit.

Kōmbo Statistics

DEVELOPMENT

1. Construction Started: 11/2000
2. Grand Opening: 5/19/2001
3. Thematic Designs: ITEC Entertainment
4. Manufacturer: Zierer

TRACK

1. Type of Ride System: I-Beam Medium Tivoli Coaster
2. Track Length: 653 Linear feet
3. Maximum Track Height: 24.5 feet
4. Maximum Lateral Banking: 36.5 degrees
5. Number of Support Columns: 51

VEHICLES

1. Number of Trains: 1
2. Length of Train: 55 feet
3. Number of Cars: 13
4. Number of Guests per Car: 2-3
5. Maximum Capacity per Train: 39 Guests
6. Estimated Hourly Capacity: 1040 Guests
7. Maximum Speed: 21 m.p.h.
8. Ride time: 1 min., 40 sec.
9. Restraint System: Locking Lap Bar

1.2 Guest Convenience Items

1. Closest restrooms: Between Dog ‘n Suds and the Performance Amphitheatre.
2. Closest drinking fountain: Ride Tickets and Information Booth
3. Closest pay telephone: Café on the Commons
4. Closest food and beverage facility: Slush Puppie (open seasonally), Maui Wowi (open seasonally), Dog ‘n Suds (open seasonally), Café on the Commons (open daily)
5. Stroller and Wheelchair Rental: Rental counter just inside Zoo Main Entrance (regular season only), Zoo Admissions (off season)
6. First Aid: Inside Zoo Main Entrance – back of Admissions building
7. Lost and Found Inquires: Security/First Aid or Zoo Admissions (Main Entrance)

1.3 Glossary of Terms

Auxiliary Control Panel – a remote set of controls at the bottom of the Lift. For Maintenance use only.

Boarding Gate – pneumatically operated gates within the Load Platform that regulate the boarding process and prevent any Guests from accessing the track area while the ride is in motion.

Boarding Row – numbered rows within the Load Platform that help to efficiently distribute riders who are preparing to board the train.

Car – the individual unit in the train within which the riders are seated.

Emergency Stop (E-Stop) – stops all drive motors and closes the station brakes.

Fin – a long, thin plate mounted underneath each car. The fins pass through the tires in each drive motor to propel the train forward or backward, and are “pinched” by the station brakes to stop the train within the Load Station.

Gravity Ride – an industry term used to describe a ride that is propelled forward by forces of gravity, usually starting from a high point such as a lift.

Jog – a function used to manually operate the motors in order to position the train according to specific maintenance needs.

Lap Bar – a restraint device that is pulled down over the rider’s lap to secure them within the car.

Lap Bar Manual Release Pedal – located on the bottom right front corner of each car, this pedal may be used to manually release the lap bar lock and raise the lap bar, such as in the case of evacuating the train while it is away from the Load Station.

Lift – the section of the track in which motors are used to elevate the train to a high point or crest, from which the free-fall portion of the ride follows.

Lift Drives – drive motors located on the lift which are used to elevate the train up and over the crest of the track.

Load Platform – the boarding side of the Load Station.

Load Station – the sheltered facility in which the loading, unloading, and dispatching of the trains occurs.

Operator’s Control Panel – the podium featuring both the operations and emergency control switches and indicator lights.

Perimeter Fence – the wooden fence surrounding the track, which defines the “no trespassing” zone while the ride is in operation. The ride must never be in operation when an employee or Guest is inside the perimeter fence.

Sensor – an optical device that monitors the position of the train. Sensors are used to control the opening and closing of the Station Brakes, the starting and stopping of the motors, etc.

Signal – an audible alert used to call attention to the imminent dispatch of the train from the station.

Start/Conveyor Drives – drive motors located in the Load Station that advance the train from the Load Station over to the lift.

Station Brake – the elongated pads that “pinch” the fins under the cars to stop the train within the Load Station.

Start/End – The “home” position of the train when parked at the Load Station. The train must be in this position for the ride to start.

Stop – finishes the current cycle of the train around the track and brings the train to a stop within the Load Station. If a Stop is initiated before the train passes through the station for the second trip in a cycle, it will stop in the station without making the second trip.

Switch Cabinet – the large cabinet in the Load Station containing all the electronic equipment and computer hardware and software that operate the ride.

Train – the ride vehicle used on *Kōmbo*, comprised of thirteen interlocked cars.

Transport Drives – drive motors used to ensure that the train does not slow or stop within certain sections of the track. Transport Drives are located between the Load Station and the Lift, and on the final curve just before the Load Station.

Turnstile – a mechanical device used to track admission and attendance on the attraction.

Unload Platform – the exit side of the Load Station.

Section 2: Working Responsibilities

2.1 Operator

The location of this position is behind the Operator's Control Panel. The Operator will be responsible for collecting and validating Guest tickets, for verifying eligibility of riders, and for operating the ride in accordance with stated procedures.

Specific Responsibilities:

1. Greet each guest party entering the attraction. Ensure that all guests have valid ride tickets prior to entering the attraction.
2. Collect one ticket for each Guest and validate each ticket BEFORE permitting the Guests to enter the boarding area.
3. Ensure all Guests meet the applicable height requirement. Measure Guests as necessary using the height measurement stick. Ensure that Guests being measured stand flat-footed with their head straight. If you should encounter any Guests who fail to meet the applicable height requirement, notify the Checker for assistance in directing the Guest through the train in the station to the Unload Platform for exiting.
4. Be alert to any expectant mothers, Guests in wheelchairs, and Guests with canes, visible casts and/or braces. Advise them of the safety concerns associated with this attraction and strongly discourage them from riding. Guests not wishing to ride should also be directed to walk through the coaster train parked in the Load Station over to the Unload Platform to exit.
5. Ensure that all Guests finish all food and beverage items prior to boarding the ride.
6. Determine the number of Guests in each party and assign Guests to a row or rows by number, loading from the rear of the train forward.
7. Safely and efficiently operate the controls on the Operator's Control Panel as outlined in stated procedures.
8. Monitor the loading process and activate the automated safety announcements.
9. Watch the Checker as the ride is being loaded to be sure that all lap bars are checked. When the Checker gives the "thumbs up" hand signal to indicate that all riders are properly seated and secured, acknowledge it by returning the same "thumbs up" hand signal to the Checker.
10. Prior to dispatching the coaster train, check the Load and Unload Platforms and scan the track area, making sure that they are clear of all persons (staff included). Dispatch the train only when the boarding gates are closed, the Load and Unload Platforms are clear, and the area inside the perimeter fence has been visually inspected to be clear of all persons.
11. Monitor the train at all times while it is in motion, being prepared to initiate an E-Stop if a Guest attempts to stand up or ride backwards while on board, or if a Guest or staff member attempts to step within the confines of the perimeter fence or station safety zone while the ride is in operation. **The ride may not be operated if any person (staff included) is standing inside the designated safety zone in the station.**
12. Ensure that the Load Station and pre-board areas remain clean at all times. Sweep the Load Platform and entrance ramp as necessary. Contact Housekeeping if any trash receptacles are in need of being emptied.

2.2 Checker

The standard location for this work position is on the Unload Platform. The Checker will be responsible for verifying that all riders are safely seated and properly restrained before the ride is dispatched, as well as monitoring activity in the station and ensuring no Guests access the station through the exit gate.

Specific Responsibilities:

1. Greet each Guest party boarding the attraction.
2. Ensure all Guests meet the applicable height requirement. Measure Guests as necessary using the height measurement stick. Ensure that Guests being measured stand flat-footed with their head straight. If you should encounter any Guests who fail to meet the applicable height requirement, notify the Operator and/or Greeter and direct the Guest to step through the train in the station to the exit ramp.
3. Be alert to any expectant mothers, Guests in wheelchairs, and Guests with canes, visible casts and/or braces. Advise them of the safety concerns associated with this attraction and strongly discourage them from riding. Guests not wishing to ride should also be directed to walk through the train parked in the station over to the exit ramp.
4. Watch for large items such as umbrellas, canes, and large packages. Advise the Guests that those items will not be permitted on board the ride for safety reasons. Such items may be left on the Unload Platform for retrieval after the ride. Items that could potentially roll off of the Unload Platform into the track area should be placed inside the bin provided on the Unload Platform until the ride is completed.
5. Caution any Guests either carrying or wearing loose articles to secure them prior to clearing the train for dispatch.
6. Verify that all lap bars are properly lowered and locked, physically checking them by pulling upward on each lap bar at each car, starting with the first car in the train and working backward.
7. Signal to the Operator by giving the “thumbs up” gesture to indicate that the train is cleared for dispatch.
8. Monitor the activity in the station while the ride is in operation.
9. Assist Guests in properly unloading from the train, and direct them to the exit ramp.
10. Regularly check each car for trash or any lost articles.

3.3 Admission Control System

The Galaxy 3 Admission Control System is utilized at the ticket collection point of this ride. The assigned laptop computer and a ticket scanner must be checked out each day from the Attractions office and setup at the ride before it can open. This system allows us to more accurately track the number of rides given on each attraction as well as prevent holders of used and/or expired tickets from gaining access to a particular ride.

You will need to setup the scanning laptops each day prior to opening a ride. It is very important that the following components are properly plugged in prior to booting up the laptop computer:

- Laptop power cord is completely plugged into the correct port on the back of the laptop and into the wall outlet
- Network cable is completely plugged into the correct port on the back of the laptop and into the network jack on the wall
- Ticket scanner is completely plugged into the correct port on the back of the laptop

Once everything is properly plugged in, open up the laptop and power it up by pressing the power button. Allow the computer to completely boot up in-interrupted. Once the laptop is setup and turned on, it should automatically boot up to the Galaxy 3 system and display the login screen.

Once you have logged into the system, the Admission Control Point (ACP) window will open. This is the main window that will be used to validate ride tickets. Once your ACP window is open, you should be sure that it is properly connected and ready for operation by checking the following items:

1. Look in the upper-right corner and be sure that the "User" displays your name.
2. Make sure that "ACP Mode:" is set to "Entry Mode."
3. Check the bar at the bottom of the ACP window for any error messages (I.E. "TCON Offline"). Error messages will show up in the bottom-left or bottom-right corners of the window.

If any of your settings are incorrect, or if an error message is displayed at the bottom of the window, call for a Supervisor right away. If everything is clear and displaying the correct information, the system is setup and ready to receive ticket scans for validation.

3.4 Final Opening Checks

Before opening the attraction to the public, be sure the following things have been completed:

1. Post the completed inspection checklist in the designated area.
2. Check the cleanliness of the coaster, including the cars, station area, and surrounding pathways.
3. Call in a 10-8 over the radio to the Base to confirm opening.
4. Open the ride to Guests.

Section 4: Daily Operation

4.1 Zierer Safari Coaster Service Manual

A copy of the manufacturer's manual for this ride is located in the appendix of this manual. You are responsible for reviewing and understanding the written operating procedures and guidelines contained in the manufacturer's manual, and are expected to adhere to them at all times unless otherwise stated in these Standard Operating Procedures.

4.2 Guest Screening

All Guests should be aware of the nature of an attraction before they decide to ride. Guest Screening is the procedure by which those Guests who cannot or should not ride the attraction are personally contacted by an operator and informed of the safety policies which may prohibit them from riding. All operators, no matter what their working position, should screen Guests. **Never at any time should physical contact be made with a Guest. If a problem arises, call for a Supervisor or Security.**

In order to board the Simulator, Guests should meet the following boarding requirements:

- Requires one ticket per person to board.
- Riders should be in good health and free from high blood pressure, heart, back, or neck problems, motion sickness or any other condition that could be aggravated by the ride.
- Expectant mothers should not ride.
- Persons who do not meet the minimum height requirement of 38" tall may not ride.
- Children under 47" tall who meet the minimum height requirement must be accompanied by a responsible adult.
- Handicapped persons must transfer from wheelchair to ride vehicle in order to experience this attraction.
- The seating on this ride may prohibit Guests of certain body shapes or sizes from riding.
- Food and beverage items must be finished prior to boarding.

4.3 Standard Ride Cycle

A standard ride cycle of the coaster shall proceed in this order at all times:

1. The **Operator** will verify the eligibility of all riders, including checking heights of small children.
2. The **Operator** will collect and validate all ride tickets into the admission control system.
3. Once all seats are occupied or no Guests remain in the queue, the **Operator** will block access to the pre-boarding area at the top of the ramp.
4. The **Operator** will close the boarding gates & lock the lap bars.
5. Standing on the unload platform, the **Checker** will start at front car and works towards rear checking and/or lowering each lap bar.
6. While checking lap bars, the **Checker** will collect any loose items in the designated collection bin and keep them at exit ramp until the Guests disembark.

7. The **Operator** will activate the automated load safety announcement while lap bars are being checked.
8. Once all lap bars have been checked, the **Checker** will give the “thumbs up” hand signal to the **Operator** to signal that all lap bars are secure.
9. The **Operator** MUST return the “thumbs up” hand signal to the **Checker** to verify that everything is clear for the ride to start.
10. The **Checker** must be behind the yellow safety line before the train is dispatched, and must remain behind that line during the complete ride cycle.
11. The **Operator** will engage the ride system and continuously monitor the activity of the coaster train during each lap around the track.
12. During the ride cycle, the **Operator** must watch the train and station at all times. The **Operator** is not to check tickets or load the pre-boarding area during the ride cycle.
13. The **Checker** will monitor the activity in the station and on the exit ramp to ensure that no un-authorized persons enter restricted areas while the ride is in operation.
14. As ride cycle ends, the **Operator** will activate the automated unload safety announcement.
15. The **Checker** will monitor the disembarking riders to ensure they exit properly, and will direct any Guests who have exited on the incorrect side to step through an open car to the exit platform rather than across the tracks.
16. When all Guests from the previous ride have stepped out of their cars and onto the exit platform, the **Operator** will open the boarding gates.
17. The **Operator** will then unblock Guest access to the pre-boarding area in preparation for loading Guests in the next ride cycle.

During periods of heavy attendance, a **Greeter** will be added to this procedure. The **Greeter** will be responsible ONLY for validating Guest tickets and verifying rider eligibility, including height checks for small children. Under this setup, the **Operator** will ONLY be responsible for operating the ride control system. Additionally, to increase efficiency, the **Greeter** will scan and validate Guest tickets while the ride is operating to allow for immediate boarding of the next ride cycle. In this case, there will be no need to block access to the pre-boarding area while the ride is in operation.



At NO TIME should Guests or Staff Members cross between the Unload Platform and Load Platform by stepping across the tracks, regardless of whether or not the ride is in operation. Crossing from one platform to another should be done by stepping through the coaster cars after they have stopped in the station.



The audible signal MUST be sounded anytime the train is being moved out of the station to alert any staff members who may be near the area to stay clear. This is especially important during the warm-up process and when operating the ride in Emergency Mode.



The train must NEVER be dispatched as long as there are Guests or staff members standing inside the yellow safety zone on the unload platform or between the Boarding Gates and the train. All persons must be clear of the station safety zone before the ride can be dispatched.

Section 5: Closing Procedures

5.1 Power Down Procedures

Once the attraction has been closed to guests, and the Load Station is clear of all guests, the attraction may be powered down.

1. Be sure that the Boarding Gates are closed, and that the Lap Bars are locked.
2. On the Operator's Control Panel, be sure that the Emergency Functions are not engaged.
3. Press in the "CONTROL OFF-ON" key switch on the Operator's Control Panel to deactivate the panel.
4. In the utility room, switch off the main power on the Switch Cabinet. Once the main power switch is in the "OFF" position, pull out the black tab in the center of the switch, and secure it with the padlock.

5.2 Final Closing Checks

Once the coaster is completely powered down and closed to Guests, the following things must be completed:

1. Call in a 10-7 over the radio to Base to confirm closing.
2. Power down the coaster following the stated procedures.
3. Power down the ACP laptop and put it away in the case.
4. Complete the closing checks on the Daily Inspection Checklist and leave posted in the designated area.
5. Visually inspect the station area and clean up any trash or litter.
6. Be sure the exit gate is closed.
7. Turn off the station sound system and any lighting or heat that was turned on.
8. Be sure the utility room door is closed and secured.
9. Close and secure the back perimeter access gate.
10. Turn in the ACP laptop to the office.
11. Return the coaster keys and your radio to Security.

Section 6: Evacuation Procedures

6.1 Station Evacuation

The following procedures shall be used when evacuating Guests from the coaster station:

1. The music in the station should be turned off and the following announcement shall be given over the P.A. system in the station:

Ladies and Gentlemen, may I have your attention please. Due to circumstances beyond our control, normal operation of Kōmbo Family Coaster has been delayed indefinitely. We apologize for the inconvenience. At this time, we ask that any Guests who have already had their tickets collected please remain where you are and an attendant will distribute re-admission tickets for you to ride at a later time. We ask that all Guests who still have their tickets please exit the station at this time. Thank you for cooperation.

2. All guests waiting in the queue still holding tickets should be directed to exit immediately.
3. All guests on board the coaster train parked in the station and any Guests waiting in the pre-board area are to remain where they are until a Supervisor arrives to issue Guest Assistance Tickets. As GAT's are issued, those Guests should be directed to exit the station immediately.
4. Attractions Team Members should proceed to the ends of the entry and exit pathways to block off access and explain to any approaching Guests that the attraction is closed.

6.2 Lift Evacuation

In the event of an evacuation while the coaster train is stopped on the lift hill, the following procedures shall be used:

1. All Guests on board the attraction are to remain seated until backup assistance arrives. Backup assistance may arrive in the form of:
 - Attractions Duty Manager (ADM)
 - Manager on Duty (MOD)
 - Security
 - Other Guest Services Management
2. The Operator should be sure that the E-Stop button is pressed in and that the Operator's Control Panel has been powered down.
3. The Checker should proceed to the lift section to calm the stranded Guests until a mechanic or Supervisor arrives.
4. The Operator will assist in evacuating the station according to the procedures outlined in Section 6.1.
5. With the assistance of a mechanic, each car will be evacuated one at a time, starting with the very back car and moving towards the front.
6. The Checker should carefully assist the mechanic in walking the Guests down the stairs next to the lift hill and out the back gate of the perimeter fence.
7. A Supervisor will distribute Guest Assistance Tickets (GAT's) to all riders as they exit the coaster area.

6.3 Ride Evacuation Away From Station

In the event of a train evacuation away from the station, the following procedures shall be followed:

1. All guests on board the attraction are to remain seated until backup assistance arrives. Backup assistance may arrive in the form of:
 - Attractions Duty Manager (ADM)
 - Manager on Duty (MOD)
 - Security
 - Other Guest Services Management
2. The Operator should be sure that the E-Stop button is pressed in and that the Operator's Control Panel has been powered down.
3. The Checker should proceed to the location of the stranded coaster train to calm the Guests until a mechanic or Supervisor arrives.
4. The Operator will assist in evacuating the station according to the procedures outlined in Section 6.1.
5. With the assistance of a mechanic, each car will be evacuated one at a time, starting with the very back car and moving towards the front.
6. The Checker should carefully assist the mechanic in helping Guests climb down ladders if necessary.
7. The Checker should assist Guests in navigating the interior of the coaster track to the back gate of the perimeter fence.
8. A Supervisor will distribute Guest Assistance Tickets (GAT's) to all riders as they exit the coaster area.

6.4 Severe Weather/Animal Escape Evacuation

In the event of a severe weather or animal escape emergency where danger is imminent, the following evacuation procedures shall be followed:

1. The Checker will be responsible for evacuating all Guests on board the coaster and those waiting in the station.
2. The Operator will be responsible for quickly powering down the attraction and then will assist in the evacuation efforts.
3. If a ride is in progress, it should be immediately cycled down.
4. The ride control systems should quickly be powered down.
5. All Guests will be quickly escorted to a designated shelter area.