

## **What Makes a Go-Kart Ride Fun and What Makes it Better??**

**By Peter F. Olesen, P.E.**

I would classify the go-kart as the universal attraction. It spans generational, gender, cultural and geographical differences better than any other attraction. In terms of drawing large numbers of guests from greater distances, go-karts have no equal. The interest in go-karts spans the individual satisfaction of driving the kart on the track as the individual wants, rather than being strapped into an attraction and being a passenger appeals to almost everyone.

### **What Makes it Fun:**

The fun and excitement of “racing wheel to wheel” against drivers in other go-karts, as well as the challenge of addressing curves, grades and elevation changes has enabled the go-kart industry to continue to grow. On a well designed course, each time a person drives on the track results in a new experience.

The fun portion of the equation involves a clean comfortable environment, an entertaining and exciting ride and a track that has presents safety as an image. This is accomplished by having a secure track with visible safety elements, go-karts with roll bars, seat belts high level track lighting and a thorough presentation of the track rules and elements.

### **What Makes it Better:**

It is better because of the guest’s overall feeling of safety that the guest feels when entering and availing themselves of the go-karts and other attractions as well as the impression that management cares through the visible observation generated by the maintenance and cleanliness of the track, the equipment and the other elements.

Go-karts have been in the family entertainment center (FEC) mix for more than 40 years. During that time they have evolved from converted lawnmowers running on dirt ovals into karts with or without roll bars and some equipped with lap belts running on asphalt pavement to the current karts with four-point safety harnesses, roll bars and hydraulic brakes operating on Portland Cement Concrete Pavements (PCC) with challenging geometrics.

As the quality of the equipment and the tracks on which the karts are operated has evolved, so has the ridership. As the quality and entertainment values, as well as guest awareness have increased, the mix of drivers has evolved greatly. Go-karts are now truly a family attraction, while at the same time continuing to be a great adult attraction. No longer are kart tracks meccas for unruly teenage and disenfranchised young adults. Successful FEC and kart track operators have recognized the greater potential for financial success when serving the family market, by no longer allowing loitering, disrespectful behavior on their sites or destructive driving of karts on the tracks.

### **Safe Go-Kart Operations:**

Operating concession go-karts at safe speeds means that the karts should not be traveling in excess of 18 – 22 miles per hour. At these speeds, karts traveling on straight segments of track do not have any real sensation of traveling fast. This turns many rides into boring sessions where some of the drivers start playing demolition derby with the karts. This should never be

tolerated as it endangers all of the guests on the track, your staff and is definitely hazardous to your karts and barrier rail systems. Such drivers should be removed from the track and not permitted to return.

### **Keep Them Turning and Returning:**

The goal of every track owner is to maximize his return. This is done in different ways, depending on the local market. Assuming the owner maintains his equipment and has a well trained staff, the difference in success and failure is the return rate the track generates. No localized market can survive without repeat visits. Therefore, the experience on the track itself will determine how many people return again and again (whether it is during a single visit to the facility or during the season, it is very important to have a facility that will generate repeat visits and rides on the track).

People that have fun and enjoy the challenge of well designed go-kart tracks will come back again and again. Those that drive on boring tracks may never come back and this is a very serious concern, because there are only so many potential guests within your market, and you can ill afford to lose any.

Unfortunately, many tracks in operation today do not have interesting and entertaining track configurations. As a result they may maintain a constant level of track usage or more often experience an ongoing decline in ridership. Many of the tracks in operation today are based on early track designs that used wide turns, bridges and related efforts to increase their appeal. The vast majority of kart riders aren't trying to replicate highway or freeway driving, and, therefore find such track configurations less interesting. For this reason, many existing tracks suffer when new, more interesting and challenging tracks are constructed in their market area.

Creative designers have introduced banked curves, creative track geometry with short straight sections (30 foot in length or less), track alignment using both right and left hand turns, varied banking and related elements to generate an illusion of speed.

### **Elevated Wood Go-Kart Tracks:**

One attempt at creating interest in concession tracks in tourism areas has been the development of multi-level wooden tracks that give the appearance of rollercoaster structures in order to have more appeal to tourists that may never take a second ride on them.

These tracks have many safety issues that have not been resolved to-date, including low head room clearance, poor access for safety personnel, bumpy rides with screws and nails popping out onto the track, a very slippery deck, a narrow track width and poor barrier rail systems. Many tracks are seeing deck deterioration in just a few years.

Some owners have resorted to overlaying the wood decks with thin shell concrete overlays which will begin cracking and chipping within relatively short time. These tracks normally operate at relatively slow speeds and do not seem to demonstrate a high interest in repeat rides.

### **Not all Track Designs or all Track Designers are Equal:**

There are almost an endless number of possible combinations of curves and straight sections of track when considering a track design. Not all of them result in a finished track configuration that is successful.

Early track designers did not seek to create exciting track geometry, but for the most part stayed with the common asphalt track with easy curves and little banking. This was done in part because tight, banked turns were difficult to construct with asphalt due to limitations of the equipment used to construct them.

Some designers sought to add a flair with bridges. Bridges added the need for spotter staff on the far side of the bridge and approaches because this design created long areas not visible from the pits. Bridges also created problems with headroom, steep approach grades that created problems for karts stalling on the approaches, which for many required rolling back to a level grade in order to continue up the grade. For tracks where the karts had sufficient power to restart on the grade, the result was a high number of broken drive belts or burned out clutches. In addition, the cost of constructing the bridges and approaches was very expensive.

Track barrier systems also did not receive a lot of attention, gradually evolving from loose tires, timber beams, plastic pipe and even highway beam guard rail to a tire and rail system held in place with reinforcing bars or "C" channels driven into the ground.

In the late 80s some tracks were paved with Portland Cement Concrete (PCC) pavement. This was a major step toward track longevity and reduced tire wear. Also during this period several tracks incorporated concrete block anchored on the edge of the pavement slabs or concrete barrier curbs adjacent to the PCC pavement slab to provide a backing for the tire and steel rail barrier systems. In 1991, Peter F. Olesen and Associates provided track plans offering four alternate tire and barrier plate backing systems that could be used, depending on local conditions. The alternates were a barrier curb constructed adjacent to the pavement slab, a slip formed curb on top of the pavement slab at the edge or the use of a slip formed curb and gutter. For locations where slip forming curbs and gutter machines were not available, an alternate using a wide angle plate bolted to the pavement slab to back up the tires was provided. The curb and curb and gutter backing systems have proven to be the best tire backing system as they prevent a tire collapse around the steel pin anchoring systems used by most other track designers.

Today the most desirable barrier back up for outdoor tracks is the curb and gutter system, making use of the gutter flags as forms for the vibrating screeds used to level the pavement slab. This is a superior format for creating a smooth transition from curves banked in one direction to the next curve which is banked in the opposite direction. This system makes it easy to control track drainage.

Today's most effective indoor track barrier system is a steel plate barrier fastened to an automobile tire, which is in turn fastened to an anchor plate designed to resist the tire collapse that occurs on a solid hit against the barrier system. This method also resists the shearing of the vertical rods used by others.

A successful design includes great geometrics that result in the drivers getting out of their karts with the urge to get right back in line. This means that the ride included entertaining and exciting banked curves, elevation changes and a feeling that the next time will be even better.

To accomplish success it is also important to select karts that can provide comfortable rides, have good seat belts, have brakes and tires that provide a smooth ride and an engine that is in tune. There are a number of karts on the market that have demonstrated good performance, solid chassis and good handling characteristics. The choice between open bodied karts and bodied karts is almost a personal one for the facility owner. Bodied karts have room for sponsor advertising and open bodied karts can be loaded and unloaded slightly faster. While open bodied karts have no real space for advertising, it is possible to create 4' x 8' advertising panels to fasten onto the safety fence opposite the pit area. This actually provides sponsors much greater exposure.

### **Controlling Rider Behavior:**

Go-kart track operators that tolerate unruly behavior by the guests riding on their go-kart tracks are doing the vast majority of their kart riding guests a great disservice not only by putting them at risk of injury due to the activity of a few "idiots" but also losing many as future guests. In addition to the loss of future revenue and gaining a negative reputation, these unruly drivers also put your staff at risk as well as inflicting damage to your karts and track barrier system. Tolerate this behavior and the local "word-of mouth broadcasting and texting system" in your community will make certain you attract more potentially unruly guests and lose what should be your most important segment of your community, the family with small children. It was a failure to recognize the benefits of establishing realistic behavior rules that held back go-karting in the early years.

Give people a challenging track and prohibiting "demolition derby activities" and your revenues will grow.

### **Building an Image:**

The ride is the most important element in creating guest satisfaction with the track. This is an absolute truth. Adding themed touches can however increase the appeal of your facility. Checkered flags are a nice touch when placed strategically around the track, at the entrance and point of sales. The use of advertising mimics NASCAR and other racing venues. This can be accomplished by having local company advertising on bodied karts. For unbodied karts and bodied karts alike, the use of advertising panels on the track safety fence adds authenticity. An added benefit is that the advertising generates revenue for your facility at the same time. Provide a clean, well illuminated facility from the entrance and parking lot to the track and your other attractions

### **Winning the Market:**

First and foremost you have to give your guests an entertaining and exciting ride experience they will want to repeat. Secondly, establishing a pleasant environment that includes other attractions reinforces the positive reaction.

While cost is always an issue, spending enough to create a track that brings guests back again and again is certainly a wise decision. You never get a second chance to make a first impression. Do it right so you won't have to do it over.

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