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## Beginners Guide to Karting at Road America

Have you ever wondered how your favorite racer got their start in motorsports? Maybe you're just looking to have a little family-oriented fun? Want to get involved in what many consider one of the least expensive forms of motorsports? If you answered yes to any of these questions kart racing might just be the thing you're looking for.

Karting takes place at the CTECH Manufacturing Motorplex at Elkhart Lake's Road America. This safe, affordable, and extremely challenging form of motorsport takes place on Tuesday evenings and select Saturday afternoons from May to September. The great thing about kart racing is the entire family can participate with any successful race team there are always participants behind the scenes! Annually there are around 20 Open Track Days, which are great for participants looking to hone their skills without the competitive atmosphere. Please use this helpful guide as a tool, which will aid you in not only understanding more about kart racing, but also understanding what it takes to get started in this great sport!

### The Club

The Road America Karting Club has roots dating back over 20 years. This stable entry-level club is enjoyed by nearly 100 members. Unlike many other karting clubs the RAKC has no mandatory workdays and doesn't require an entire weekend commitment. Members practice and race conveniently on the same day! The club is comprised of two distinct series. The Weekend Series runs a 9 race series on select Saturdays, with racing taking place on the full track (approx. .8 of a mile). The Weeknight Series runs a 12 race series on Tuesday evenings racing on the half-track (approx. .5 of a mile).

Can't make it every Tuesday or Saturday? No problem, each series has drop days, so missing a race won't affect your point championship status. The weekend series and the Tuesday evening series each allows competitors one drop per season.

Membership fees normally run around \$125 per year, with nightly race entry fees averaging \$25 per night. Club membership does qualify you to receive discounts on Open Track Days. With around 20 public and Open Track Days annually, you will have plenty of opportunities to sharpen your driving ability!

### The Track

Racing is conducted on the famous CTECH Manufacturing Motorplex, which is located inside of Road America's 4-mile road racing circuit. The track is a purpose built karting track that is capable of multiple configurations. Being constructed into a hillside, this one-of-a-kind facility offers many challenging twists and turns including over 50 feet of elevation change. The CTECH Manufacturing Motorplex is a FIA/CIK approved track that is considered by many to have some of the best corners in karting. **Wide, Fast and Fun!!!**



## The Classes

The karts are split into different categories, which are referred to as classes. The classes are set up to simply allow for competitive racing at various levels of investment. Classes are normally determined by the age of the driver and choice of engine. Ages range from 5-years-old to 75-years-young. All classes are required to run a certain tire and compound while adhering to a minimum weight rule. The minimum weight is the total of the kart and driver in race ready condition after each event. Karts are weighed as they exit the track after every event. An average kart weighs in at 150 to 175 pounds (without driver). If your combined weight isn't enough to satisfy the class requirements, you will be required to bolt lead weights on to your kart. While there is a slight disadvantage to karts that are over the minimum weight, we do have drivers who compete regularly who weigh between 200 and 250 pounds.

RAKC CLASSES (4 Cycle)	AGE	WEIGHT	TIRE
KID KARTS	5 - 7	150/170	YHC/YLC/YKC
BRIGGS 206 SPORTS	8 - 12	260	YDS
BRIGGS 206 LITE	12 & UP	310	YDS
BRIGGS 206 HEAVY	15 & UP	375	YDS
BRIGGS ANIMAL SPORTS	8 - 12	260	YDS
BRIGGS ANIMAL	12 & UP	300	YDS
BRIGGS WORLD FORMULA	12 & UP	410	YDS
KOHLER SUPER STOCK	15 & UP	360	YDS
RAKC CLASSES (2 Cycle)			
YAMAHA SPORTS	8 - 12	250	YLC
YAMAHA LITE	12 & UP	320	YLC
YAMAHA HEAVY	15 & UP	360	YLC
KOMET JUNIOR (HPV)	12 -15	310	YLC
KOMET SENIOR (HPV)	15 & UP	340	YLC
T.A.G.	15 & UP	WKA	YLC/YLM
ROTAX DD2	15 & UP	385	YLC/YLM
SHIFTER	15 & UP	400	YLC/YLM
STOCK HONDA SHIFTER	15 & UP	400	YLC/YLM
See RAKC rulebook for full class specifications.			

## The Karts

Let's begin by clarifying a common misconception that many people have! A racing kart is different than a concession kart, a yard kart or what you would consider a standard go-kart. A racing kart is a purpose built racing machine, designed with one objective in mind. These true racing machines are direct descendants of open wheel formula cars. As in any form of motorsports there is always more involved than what meets the eye.

The kart chassis used is a straight frame, configured specially for sprint type road racing. There are many manufacturers with the main producers for 4-cycle competition being Bandit, Coyote, and Margay. Manufacturers specializing in 2 cycle karts include Birel, Haase, Margay and Merlin. Many of these chassis have adjustability built into them for track tuning.

Things as simple as seat placement and proper driver fit can play an important role in proper kart handling. There are many specific components that make up the workings of a kart. Each kart has a drive train, which usually consists of a chain and centrifugal clutch. Different sized sprockets are available and can be changed to allow for various engine choices, tracks and conditions. Each kart is required to have a transponder, which allows timing and scoring personal to record racing position and lap times. There are 2 basic types of bodywork used at the CTECH Manufacturing Motorplex. The 2 cycle classes use the CIK type bodywork, while the 4-cycle classes can choose either the CIK type or Full Body type.



Kid Kart with CIK body



2 & 4 Cycle w/CIK body







4 Cycle w/full body work

## The Engines

There are two different engine types, one being 2-cycle and the other being referred to as 4-cycle. The main difference between the two are the 2-cycle engines don't use a valve train for compression and exhaust, while the 4-cycle engines use a camshaft which utilizes intake and exhaust valves for compression and exhaust. The 2-cycle engine does not use oil in the crankcase for lubrication the oil is added to the fuel, while the 4-cycle engine has oil in the crankcase and not in the fuel. It is important to consider what days you plan to race when determining which engine to purchase. The weeknight series only uses the 4-cycle engine because of sound restraints for night racing. The 4-cycle has a much lower deep sound compared to the 2-cycle engine. Be sure to consider your schedule when selecting an engine to make sure you'll get to race as often as possible.

## Frequently Asked Questions

					
Comer C50/51 Kid Kart Engine	Briggs 206 Kid Kart Engine	Briggs 206 4 Cycle Engine	Yamaha KT100 2 Cycle	H.P.V. 100 2 Cycle (Komet)	TAG & Shifter 2 Cycle

### F.A.Q. #1: How fast do they go?

It depends on which class. For example Kid Karts have a top speed of 20 to 30 mph, 4 cycles, Yamaha, HPV are in the 40 to 60 mph range, TaG and Shifter karts have a top speed of 70 to 80 mph range.

### F.A.Q. #2: How much does a kart cost?

There are many variables that need be considered when answering this question. Let's begin with brand new packages. When purchasing brand new equipment, you can expect to pay approximately \$2000 for a Kid Kart, \$3000 for a Briggs 206 powered kart, \$3500 for a Yamaha KT100 powered kart, \$4000 for an H.P.V. powered kart, \$6000 for T.A.G. powered kart, and \$8000 for a 6 speed shifter kart. Fortunately, there are used kart packages available either as rolling kits or complete kart and engine packages through some of the kart shops or karting classifieds. Pricing is normally determined by age of equipment and condition. When buying used equipment, it is customary to find packages offered at ½ the price of new. Realize that buying a used kart is like purchasing a used car, great care must be taken to ensure you get what you pay for. It is extremely important to be sure that when buying used equipment, it conforms to current rules, which will help avoid costly updates.

### F.A.Q. #3: I purchased a kart, what do I need to start racing?

To race competitively you must purchase a transponder that attaches to the kart for timing and scoring. This transponder is referred to as an AMB transX160 and the normal retail price is around \$250. Kid Karts don't need a transponder – this class is a non-point class and focuses on the fundamentals of racing and not who wins and losses. You will also need appropriate safety gear, which includes a certified full face racing helmet (check rules for ratings), a racing jacket or suite, a neck collar, and proper racing gloves. You can expect to pay approximately \$300 or more for proper safety attire. Now you'll need some way to get the kart to the track. The bed of a pickup or SUV will work just fine. However, many of our members have trailers to haul their karts and gear, but to date we have never seen a trailer win a race!

### F.A.Q. #4: How hard is it?

There is no easy answer to this question. Variables include equipment, experience, talent, and competition. Always keep in mind that you may be racing against experienced competitors and showing up at the track and expecting to win right from the get go maybe a little unrealistic. It is a good idea to set long term goals with measurable results, but at the same time you must remember that kart racing is fun and there is more to fun than just winning. In reality, it takes a combination of equipment, setup of the chassis, a good running motor, good tires, a good driver and some racing luck to become a consistent front-runner

### F.A.Q. #5: I have a kart, but I don't think I'm ready to race, what are my options?

The great thing about the CTECH Manufacturing Motorplex is that there are many Open Track Days throughout the season to help you gain valuable experience. These open track days normally cost about \$25 per day and provide participants with plenty of time to test and tune their equipment.

## Race Day

For both race series participants enter the Road America facility at gate 4, which is located off County Road J on the South side of the grounds. For the weekend series races the gates open at 8am and for the weeknight series races gates open at 4pm. Once you enter gate 4 you must park your vehicle and visit the ticket booth. At this time, you will be required to sign entry waivers and pay a race entry fee.

Ok so you're in the gate, now you can make your way to the CTECH Manufacturing Motorplex paddock, parking is on a first come basis and most try to get as close to the track and pit lane as possible. If you know another member it is a good idea to park close to them in case you need a hand or some advice. Once you are parked you'll want to fill out the registration slip, which was given to you at gate 4, this slip needs to be turned in at the timing and scoring building.

Once you've unloaded your kart and equipment you must pass a pre-tech for safety and at that time you'll receive a sticker to allow you on track. You can start practicing when your group is called over the PA system. Practice sessions run 10 to 15 minutes in length for each group, with each class having multiple sessions per event. Use this time to test and tune your kart to prepare it for the races. The first thing you should do is find the entry and the exit of the track. Make sure you clearly understand how to safely merge on and off the track before your first practice session.

After practice, there will be a drivers meeting explaining the procedures for the races and answer any questions. Once this is complete there will be a grid board displayed which will include starting positions for each class and race. The race structure is simple, each class will have two qualifying heat races and one feature race per event.

## The Races

Be sure to check the order of the races and be prepared when your race is called. Make sure you are to the grid well before your race is up and prepare to pre-grid, which takes place in front of the timing and scoring building. Once you are gridded and ready to go you can start your kart. All drivers must be in their karts before they can be started. Other participants are always willing to lend a hand should you need one.

Once your kart is running raise your hand, which will signal to the pit lane marshal that you're ready to go. Once everyone is ready in your class the pit marshal will waive you onto the track. Don't forget to close your visor before going on track because a small stone to the eye could end your racing fun prematurely. If you're brand new to karting you will be asked to start at the tail of the field for your first couple of races, this will help you build confidence without interfering with other competitors. The entire grid advances on the track at a slow controlled speed. The pack of karts normally makes one lap before they are given the green flag. Your group will form into two lines before the island turn and should be equally spaced about a foot from each other. Coming out of the last turn there will be a start cone out on the track, assume pace speed until the cone and watch the flagman for the green. Once the flag drops the fun begins.

If at any time during the race your kart becomes disabled simply try and pull to a safe area on the track and raise your hand. This will indicate to track officials that your kart is disabled and they will make necessary safety precautions. When the race is checkered continue around the track on the cool down lap and exit the track and stop in line for the scale. Remember to ask questions if you're not sure, most teams are happy to help you get up to speed.

Welcome to the Road America Karting Club and good luck catching your first checkered flag! Remember success takes time, don't get discouraged if you don't see immediate results. With some patience and effort, you too can be the next Road America Champion!

**Rules to race by: #1 Safety First, #2 Have Fun, #3 Have Fun!**

### Additional Information

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