

UPPER LIFE



SURPRISE CHAMPIONS



NEW RIDE

MODIFIED KARTS

How do they compare to today's sport quads?

By the staff of Dirt Wheels

In the world of Indy-car racing, kids as young as 3 can start honing their asphalt-driving skills in go-karts. The circle-track boys stick their kids in quarter-midget cars or Bandoleros and bring them up through the ranks.

For off-road racers, a new type of machine has been created just for their sport, commonly known as Trophy Karts. These pint-sized pickups resemble the trucks that are driven in Baja events or smaller versions of the trucks running in the several short-course series across the country.

What is interesting about these little machines is that beneath their bodywork and under their roll cages, they have components of a modern-day race quad. They have dual A-

arms up front with a single coil shock on each corner with a dual-shock, four-link, truck-type rear end. Travel numbers up front are an impressive 13 inches, and the rear moves an incredible 19 inches.

Power for the premier class, known as Modified Kart, is provided by 450cc, four-stroke quad motors taken directly from YFZ450Rs, LT-R450s, KFX450Rs and Honda TRX450ERs. This sport also has two entry level classes called Junior 1 and Junior 2, which run an air-cooled, fully automatic, 266cc Subaru four-stroke or a larger, 389cc Honda generator motor.

WHERE TO RACE

While the Lucas Oil Off-Road Series is the premier venue for all classes of these karts, there are tracks

and organizations all over the world that include this class of racing into their schedule. The most popular are the LOORRS regional races that run at Glen Helen in San Bernardino, California (www.glenhelen.com), and at two locations in Arizona, including Speed World in Surprise (www.arizona.shortcourse.com). In Texas, TORRA (www.torraonline.com) has karts in their schedule, as does COORP up in central Oregon.

On the East Coast, the NEATV has a Trophy Kart race that runs in conjunction with the ATV program, and we even saw a few 450cc karts at the Wild Wood New Jersey Beach Race this year. Another series in Florida is ramping up their Trophy Kart pro-



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gram as well. Even further south, in New Zealand, they are catching the Trophy Kart bug. Check out these tracks at www.oranz.co.nz. More track info can be found at www.trophykart.com.

QUAD COMPARISONS

With the obvious correlation between this type of racing and high-performance sport quad racing, many respected engine builders are jumping into the sport as well. Duncan Racing has the largest number of drivers using their powerplants, including last year's champion and current points leader in the Lucas Oil Off-Road Series Mitchell Dejong.

Another top driver on the LOORRS circuit is Kyle Hart, son of the legendary ATV racer Marty Hart. Years ago, Hart made the leap into full-sized truck racing and has won several championships in the sport. Other former quad racers, like Chris Brandt and Jimmy Stephenson, are regulars on the LOORRS circuit. Jimmy's son, Tyler, races in the Junior 1 Trophy Kart class.

KART SPECS

These little off-road karts aren't cheap. One of the top chassis builders, Dejong Off-Road ([951] 461-1933), sells a rolling chassis for \$28,000. You also need another ATV to pull the powerplant from. You need to use the engine, radiator, intake, throttle body and the wiring harness to complete the Modified Kart. Dejong

calls their race machines Super Karts, and they recommend a Yamaha YFZ450R motor.

According to Duncan Racing ([619] 258-6306), modifications allowed by the LOORRS rule book are minimal. You can change the cams to factory dirt bike or ATV cams, you can use larger valves and also if they are available as stock equipment on another production ATV or bike. Ignition and EFI settings can be manipulated, so Duncan uses a Vortex controller so the teams can build power.

Per the LOORRS rulebook, a Modified Kart has to weigh 810 pounds with the driver, so that's quite a bit heavier than the average 400-to-425-pound quad and 150-to-200-pound rider combo. The karts are 54 inches wide and have a wheelbase of 73 inches—that is over 4 inches wider and 20 inches longer compared to a fully built race quad. These karts use 20- or 21-inch front and 19- or 20-inch rear quad tires and wheels on all four corners depending on track conditions.

DRIVING A QUAD

Most Super or Trophy Kart drivers are kids between the ages of 8 and 15, so the cockpit is pretty cramped for an adult driver. That is not to say, though, that adults cannot drive these little land rockets. We have heard of parents building themselves a kart just so they can go out and practice alongside their sons and daughters. In fact, Duncan Racing used a

There's no question that a quad jumps better than a Modified Kart. It's 150 pounds lighter and maneuverable in the air. A good kart track has to have smooth take-off ramps and landings.

marathon test session with Marty Hart at the controls to develop the engine-tuning packages they offer to all kart racers.

We squeezed into Hart's son Kyle's Modified Super Kart following the recent LOORRS race at Glen Helen. Full five-point harnesses are used, as well as a racing seat. The engine fires up using the stock electric starter. A racing-type steering wheel is used, along with a throttle and brake pedal. You operate the clutch and shifter with hand controls. To the right of the steering wheel sits a handle and a clutch lever to take care of all the shifting.

The gear pattern is the same as on a quad. In the kart, you push forward on the hand lever to engage first, then pull back (over neutral) for second gear, then third, fourth and fifth. It takes a few minutes to get used to. Steering is quick. No need for any hand-over-hand maneuvers in this kart like in some UTVs. A quick flick to the right or left will get the front tires to full lock and you'll have the back end sliding.

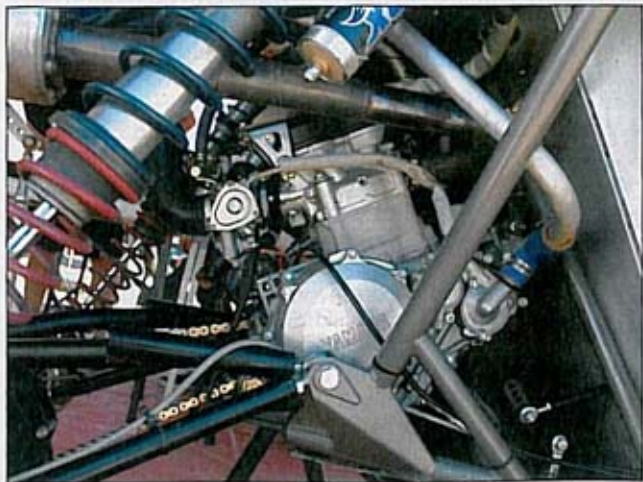
When you sit in the cockpit, the bulk of your body weight is only 9 inches off the ground; most 450cc sport quads have a seat height that is over 40 inches off the ground. Your legs are basically between the front



Kyle Hart and Mitchell DeJong are two of the top kart racers in the country, and they aren't even old enough to drive yet. These karts, along with Garrin Fuller's TRX450R racer, all run engines tuned by Duncan Racing.



With or without the fiberglass truck body, this Super Kart looks trick. It uses an ATV powerplant, tires, wheels and a similar front end. The body alone sells for about \$800.



Most of the top Modified Karts use the motor out of the Yamaha YFZ450R. Duncan Racing has been tapped by many teams to massage and maintain these engines between races.



Out back, an amazing center-sprocket-mounted rear end provides the drive on Mitchell DeJong's kart. A winning kart like this will set you back over \$35,000.

KARTS



Chromoly A-arms and huge Fox shocks are used on the front of Kyle Hart's Modified Kart. There is slightly more wheel travel on these machines than on the best race quads.

A-arms, and the pedal assembly is behind the front bumper. The seat is right in front of the rear suspension pivot, and the engine is on top of it.

OFF-ROAD GO-KART

With such a low center of gravity and a wide footprint, you can rail corners as good as you can on a wide race quad. The steering is quicker than the ratio on a quad, so you have to be a little more precise with your driving than on a quad. If the ground is tacky, you steer completely with the front tires. They bite and corner the machine like it's on rails. If the dirt is a little loose or loamy, you can steer a little bit with the back end.

The Yamaha motor Duncan Racing built for Kyle Hart's kart was impressive. Even though it has to push around over 800 pounds, this Super Kart was a rocket. Unlike with a quad that you can lug around a track, this machine wanted to be run at very high rpm. Gear selection is very important. For optimum performance, you have to let the Rs build until they almost hit the rev limiter, then shift. Shift too soon and the kart bogs, and the power can't only be saved by feathering the clutch.

In the bumps, the huge Fox shocks on Hart's kart worked well. The long wheelbase allowed the kart to get through the choppy braking bumps and whoops as good as any factory race quad. In fact, the long travel of the four-link rear suspension of these karts would make the rear end of a quad work much better if they could only keep the weight down.

ON-TRACK COMPARISON

To get an idea of how lap times of a quad compare to the \$35,000 race



Former ATV racer Jimmy Stephenson's kid, Tyler, competes in one of the entry-level kart classes. These machines feature Honda and Subaru engines with a centrifugal clutch. Used karts like this are priced at around \$10,000.



The cockpit of a Super Kart is sized for kids 8 to 15 years old. Being surrounded by a chromoly cage and strapped in with a five-point seatbelt, the kids are pretty safe in the driver's seat.

cars, we took a few laps on the LOORRS Glen Helen kart track. This track is relatively smooth compared to a quad racing track. The jump lips are tame and so are the landings. A Modified Kart could make it around a MX track, but some of the doubles and jumps with ruts would make take-offs tough to navigate in the kart due to the fact that you can't manipulate the kart in the air like you can on a quad.

Going into the test, we didn't know how the results would end up. It turns out, our Pro-Am rider matched the lap time of the very fastest kart lap time of the race weekend on his first lap. The track was fast with little room for error, and we couldn't gain more than a second on the kart.

Driving this kart really teaches a kid to be precise with his shifts and steering. We can see why off-road kart racing is so popular for kids of some of the big names in off-road racing; it fits in the high-dollar world of short-course and desert racing. We are confident that these off-road karts will not replace high-performance ATV racing, but we do welcome them to run on our tracks and put on a show for the fans. They are as fun to watch as they are to drive. □