

CHASE'N RACE'N

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16th Annual Holiday Classic
Racers Heat up cool Arizona desert!!



Indoor Thunder
Circle M Ranch
Pelzer, SC

Concrete Knights
Cabarrus Arena
Concord, NC

World Dirt Championships
Daytona Flat Track
Daytona, FL

Plus a whole lot more!!!

GRASS ROOTS

TECH BARN

with: Jimmy Rivers

The Racer's Toolbox



Editors Note: Over the course of the last six years, we've been blessed with some really good help in the tech department, and from time to time we'll find a column that is simply timeless and warrants a reprint. This month's Grass Roots Tech Barn column is actually a combination of two printings back in 2009. Staring down the barrel of 2011, we feel this is one of those timeless pieces that many of our readers can utilize. We hope you enjoy it and find it useful.

Racing karts are mechanical in nature. Mechanical things require tools. What tools are necessary? Do I need a huge box full of tools, or just a few wrenches? Well, those questions and more are the subject of this month's article. We will help you to fill your toolbox with the tools required to perform the job you need to do, and cover your bases without getting too carried away, which is something we all seem to have tendency to do.

Nothing is worse to me than having to work on something and not having the tool, or correct tool for the job. At the track if that happens, fortunately we usually have



neighbors that we can lean on to borrow that wrench or other tool to get us through. However, if you are like me, I will only borrow something once. After that, I will have my own resting comfortably in my box until it is needed again.

Let's break our tools into several different categories. The first one is the tools we need to work on the kart itself. Anything we will need to completely disassemble the kart, we want to list. I will also add a couple of items that will aide in making repairs to crash damage at the track. We will break another into an Animal and Flathead engine section, with the tools needed to maintain the engine at the



track, and to perform general maintenance issues. Our final category is the basic tools and gauges that we will use in our "at the track setup."



Kart Tools

- Full set of wrenches, from 1/4 up to 13/16
- Socket set, preferably 3/8 drive, from 5/16 up to 13/16
- Allen (Hex Key) socket bits, 3/16 and 1/4
- Set of loose Allen (Hex Key) wrenches
- Screwdriver set, various size blades, Phillips and Straight
- Slip- joint pliers, also known as channel locks
- Side cutter pliers, or wire snips
- Small pair of pliers
- T-handle Allen Wrench set
- Ball peen hammer
- Dead blow hammer or rubber mallet
- Assortment of small pin punches
- Safety wire pliers

I personally recommend having duplicates of your most popular wrench and socket sizes. 7/16, 1/2, 9/16, and 3/4 are very common sizes on today's karts, and many times two wrenches are needed at the same time to do the task at hand. Sometimes as well, the tools you use the most tend to get temporarily misplaced, and having a spare helps keep the ball rolling.

Specialty Tools

- Hacksaw
- Extra long screwdriver or pry bar
- Cordless Impact gun (Essential !)
- Cordless Drill and bit assortment

Engine Tools - Flathead

- 3/16 Balldriver
- 5/32 Balldriver
- Cutoff 3/16 Allen wrench
- 13/16 Spark Plug socket or wrench
- Inch- Pound Torque wrench
- 5/16 Nutdriver

Engine Tools - Animal

- 5 mm Balldriver
- 10 and 11 mm wrenches
- 5/8 spark plug socket

Of course we haven't duplicated some of the tools from the list of Kart Tools that are essential in the Engine area.

Track Pit Tools

- Durometer
- Air Gauge
- 1/4 wide tape measure
- Silver and black markers
- Duct Tape

Step two in building a good toolbox is to properly organize your tools. This makes finding a tool a quick job, plus it helps you keep up with missing items. Always invest in quality tools, and take care of them. Quality tools will be

around for a very long time. As time goes on, your box will likely get much larger, and expand well beyond what is listed here. This is what I consider to be the minimum needed to be self sufficient at the track.

Every racer's goal is to be in the tech room at the end of the night, which usually means we had a successful day at the track. We will help you to have the tools you need to disassemble your engine for tech inspection.

Being in tech can be a nervous experience for some racers, and having the techman breathing down your



neck while you hunt for or try and borrow tools only makes it worse. Plus, some days are long enough and being ready and prepared in tech keeps everything moving along, and gets everyone out sooner.

We will break the tech box into three parts: One for the Animal, which uses predominately metric fasteners, another for the flathead, and one for the common tools. We also want to have the tools necessary to remove the engine from the kart in the tech area.

The best possible scenario is to have a dedicated tech box, but sometimes it isn't possible to have two complete tool sets, one for the track, and one for tech. We may have to borrow some items from our main toolbox, and



add in with the dedicated tech box. Just make a list of the shared tools so they can be gathered quickly when the time comes.

Let's begin with a small toolbox. You can purchase a small box with a removable tray pretty much anywhere tools are sold for just a few dollars. Don't go overboard, but