

Welcome to Blackbird Quarter Midget Race Club.

2412 Speedway Drive, New Castle. DE 19720



Track History: Blackbird was originally a Sprint Car track located in Blackbird DE. Blackbird moved to New Castle DE and became what is now known as Airport Speedway. In 1985 Airport Speedway introduced a 1/20th mile Quarter Midget track on its infield. Quarter Midget racing ran here for the 85-89 seasons until 1990 when the Quarter Midget track we now call Blackbird was built behind Airport Speedway and has raced in this location for the past 30 years.

The next pages give an introduction to the sport, novice school date/times, a high level break down of each day of the school, followed by information on safety requirements, information on cars/parts and finally contact information for Board of Directors and Novice Committee members.

Please note – Your kids will be at the track all day, please bring food, drinks, snacks, lunch, etc. As our concession stand is limited during Novice school.

Plan to be at the track each date of novice school until 5-6pm.

Dress accordingly to the weather, be prepared for rain.

Rain out/cancellations & updates will be announced via email, and on the Facebook page.

Please check for updates before coming to the track each week.

Additionally you will find forms to join BQMRC and USAC enclosed in the email, along with club documents that need to be completed and fundraiser requirements. You will also see USAC and BQMRC safety forms showing what we will be looking for on each car on day one for safety inspections. Each car must pass safety to go on the track. We hope to have every car and driver on the track day one. To make the most out of the school for your driver please come prepared. If you need any assistance with car safety prior day one please email us for help.

If you have any questions please do not hesitate to ask, email our secretary Sarah Ballard at SecretaryBQMRC@gmail.com

Welcome to the World of Quarter Midgets

We want to start off by giving you a few important thoughts, racing Quarter Midgets will teach your driver a lot of little lessons that they will experience during their lifetime.

1. How to win with dignity
2. How to lose with dignity
3. How to be a good sport.

In life you're not always going to win at everything that you pursue, so you need to know how to handle a defeat as well as a victory and we think this sport teaches that to some degree. As for displaying good sportsmanship, it is up to us parents and adults to teach this because they watch us and do as we do. We teach and encourage our drivers to shake hands/high five at the end of races, no matter how they finished. This is a very competitive sport but please; if you do choose to voice some concerns about something, do it out of sight and range of the little ears and the spectators at the track because like we said before they watch us and do as we do

You have two sides of the fence: the competition side and the having fun side. Every driver and handler wants to win, that's just natural, but not everyone will win. There is only one winner of each race and there is a really good chance you will lose more than you will win. Every driver that gets out there, races hard and does the best they can do no matter if they win or come in last is a winner. This sport is called racing not winning. If kids get to race we have reached our goal, winning is an added perk.

Driving these little cars is not as easy as it looks, the thought processing speed of these young drivers is equivalent to **160 mph** in a normal size car. Until you have had the opportunity to drive one for a couple of laps around the track you, will not understand the prospective of your driver and what they have going on inside that car. Every child is different, for some it clicks really fast, and others it takes a while, be patient!

Always be positive around your driver because if they think they can't win or improve they never will. Set small goals of specific things to work on each practice, each week, and each race. When they see they can accomplish the small goals, the bigger goals will not seem so far out of reach. Just like the little train would say -I think I can, I think I can, I think I can, Soon they will KNOW they can as well. They may not always win but they will continue to improve each time on the track, if we continue to encourage growth. Never say anything negative, always be positive with your driver.

Spend quality time teaching the driver the basics: After week one of novice school make a racetrack with your driver out of something from home, such as cardboard and model what you learn each week using toy cars. Work with your drivers on their card board track they helped make, be sure to add in the racing line, the light locations, flag stand with finish line, start box, and make a set of flags out of paper. Review the meanings of the flags. Most importantly number the matchbox cars as they would be on the track and use them to follow the race line, show how they need to line up single file, double file, switching positions, and where to start the race. Parents can also mimic the hand signals the race officials use, see if your driver knows what to make the cars do on the track when they see that signal.

Communication needs to be at the top of the list. As they get further into the racing season, start asking for feedback about their cars. Was it easy/hard to turn? Did the front or the back of the car feel like it was not working? Ask AND listen. NEVER make the driver feel inadequate. Try to explain in a calm manner. Always let the driver help. Come up with a way to describe certain feelings in the car so they know what tight and loose feel like. Believe it or not all drivers are capable of doing more than just putting numbers on the car. The sooner you include them in the set up process the better. Teach them to take pride in there equipment and also respect others equipment. Race cars are not cheap!

We are all here to help, if you need anything please ask.

We hope every family member will enjoy their time in Quarter Midgets and make a lot of new friends all around the country. We believe that this is the best sport where the entire family can be involved. You guys are a team now, the crew chief, the support crew and the driver, it will take a TEAM to win...BE PATIENT, and HAVE FUN!

In closing remember safety is our goal but it is your responsibility, please review pages 8, 10, & 11. The safety forms are shown, if your car comes to the track on week one of rookie school ready to pass safety and has a throttle stop installed. You will be ready to hit the track and get started much sooner then spending the day fixing things to make the car pass safety. Cars must pass safety and have a sticker to be on the track.

Regards.

BQMRC Rookie Committee



Blackbird Rookie Program Information

Runs 5 for weeks as follows: 3/26, 4/2, 4/8, 4/16, 4/23
Attending each class is strongly recommended, you must make 4 of the 5 dates to graduate rookie school and race the season.

Week 1 – Sunday 3/26/23

- 1) Start time 9am.** Arrive with car, driver, safety gear. Unload car and be ready for inspection.
- 2) Car Inspection** (each car must pass USAC Safety inspection, please see enclosed information)
- 3) Introduction Meeting,** review track rules, etc.
- 4) Drivers walk & learn the track,** review fundamentals (flags, procedures, race car basics gas/breaks steering wheel is our buddy)
- 5) Driver & Handler Q & A**
- 6) Begin single car runs,** teach to drive the line, follow race director signals, and flag commands.

Week 2 – Sunday 4/2/23

- 1) Start time 10am.** Any car not already through inspection please complete by today's date.
- 2) Any driver that did not complete week one.** Finish week one single car runs, tech drive the line, follow race director signals, and flags.
- 3) Review, refresher, questions** from drivers about week one
- 4) Explain Phase 2 – with two cars on track.** Running nose to tail and switching.
- 5) Driver & Handler Q & A**
- 6) Two cars on track running nose to tail and practicing passing.**
- 7) Controlled open practice if time allows**

Week 3 – Saturday 4/8/23

- 1) **Start time 10am.** Last chance to complete any outstanding items for rookie car inspection.
- 2) Any driver that did not complete week two. Finish week two, Two cars on track running nose to tail and practicing passing
- 3) Controlled open practice if time allows
- 4) Review, refresher, questions from drivers about week two
- 5) Explain Phase 3 – with two cars on track running nose to tail and switching we now add a third car.
- 6) Driver & Handler Q & A
- 7) Two cars on track running nose to tail we add third car and use the same process for 3 cars
- 8) Add in car leaving the track. Signal they are pitting, enter hot chute, stop in box, exit out and blend back in on the track with other 2 cars. Repeat process for all 3 cars in group.
- 9) Controlled open practice if time allows

Week 4 – Sunday 4/16/23

- 1) **Start time 10am.** All cars should be through rookie car inspection.
- 2) Any driver that did not complete week two. Finish week three, three cars on track running nose to tail and practicing passing
- 3) Controlled open practice if time allows
- 4) Review, refresher, questions from drivers about week three
- 5) Explain Phase 4 – with two cars on track running nose to tail and switching we now add a third car.
- 6) Driver & Handler Q & A
- 7) Two cars on track running nose to tail we add fourth car and use the same process for 4 cars
- 8) Refresh pulling into hot chute, stopping in box, exiting and blending back in
- 9) Mini 4 car mock races
- 10) Practice exiting the track and pulling up to scale house in line no bumping.
- 11) Car set up, scaling class if time allows

Week 5 – Sunday 4/23/23

- 1) **Start time 10am.** All cars should be through rookie car inspection.
- 2) Any driver that did not complete week four. Finish week four, four cars on track running nose to tail and practicing passing
- 3) Controlled open practice if time allows
- 4) Driver & Handler Q & A
- 5) Review track rules, running the line, flags, etc...
- 6) Handler school session while kids review
- 7) Rookie Classic race day (Mock 4-6 car races) Handlers are hands on now.
- 8) Car set up review – class if not already completed.

Safety Gear Required:

(information pulled from USAC safety sheet)

Helmet Rated - Snell SA 2010 or higher or SFI 24.1 or higher.

Helmet Shield – No cracks SFI 3.2 A/1 min.

You will need a clear shield, tinted or amber are options. (Clear or Amber required at night)

Neck Collar – Nomex or Equivalent or Head Neck Restraint such as Hans, Simpson Hybrid, Nex Gen that are SFI 38.1 certified. Good the 5 years from date of certification.

Arm Restraints - Worn at wrist sized long enough to just reach top of steering wheel.

Driver Suit – SFI 3.2 A/1 Min rating

Head Sock recommended – SFI rated.

Gloves - 3.3/5, 1 layer Min

Shoes - Completely cover feet, flat bottom Min

Blackbird Board Of Directors:

- President: Craig Neri blackbirdclub@comcast.net (215) 704-1660
- Vice President: Chris Gosselin cgosselin_98@yahoo.com (856) 912-5471
- Treasurer: Donna Glass donaglass@comcast.net (267) 249-8907
- Secretary: Sarah Ballard secretarybqmrc@gmail.com (856)340-8719
- Board Member: Ed Singleton buickturboperformance@yahoo.com (610) 306-1623
- Board Member: Brett Ballard bballard@allcountygcd.com (609) 364-3980
- Board Member: Kyle Lloyd pwlloy23@aacounty.org (410) 935-9343


Novice Director:

Amber Martin: tankteach.at@gmail.com

Club info:

<http://bqmrc.org/>

 Blackbird Quarter Midget Race Club

Group Page:  Blackbird "The Flock" Members Only. (You will need to complete your membership paperwork and request to join before being approved.)

Parking:

- In and out of track area 5 MPH
- Do Not Block Driving/Emergency Vehicle Route
- Track vehicles must be able to access the bunker without interference
- Members must be able to access dumpster located at the bunker for trash duty



In the pages to follow you will find information about race cars, where to purchase cars, find parts, purchase safety gear, information on car maintenance, safety inspection, setup, etc...

This is meant to be informational its not meant to be overwhelming to someone new looking to get started in the sport. This is a sport you can get into with no previous knowledge of mechanics and or racing. The club members, chassis builders, parts sale vendors, engine builders, are all here to help.

This package was put together to help people looking to get into the sport with no previous knowledge to help them be better prepared and know what to expect. Please reach out to any of us for help, you can start with the secretary you to the right person, but please read the info that follows first as it may answer your questions.

Our club meets every month, typically the 2nd Tuesday. Feel free to come to a meeting and discuss anything in person we are here to help. Contact the secretary for location & time or pay attention to The clubs Facebook page.

During rookie school we will typically make time to show the hands on setting up a car, how to perform different types of maintenance, etc. for anyone that wants to attend.

Page (9) – Helpful information

Page (10/12) - Blackbird and Nascar youth series safety forms

Page 10 – Shows the clubs check list that our safety team follows. Please make sure your car passes these checklists if it does not pass you will not be allowed on track for school with the car

Page 11 – Shows the Nascar Youth Series safety form. Each category is required to pass to get your cars sticker to race if it does not pass you will not be allowed on track for school with the car.

Page 12 – Shows the minimum weight a car must be with and without driver to pass tech on race day.

Page (13) – Rookie Restrictor plate and throttle stop information – Please bring your car set up with a throttle stop

Page (14/15) – Car set up and maintenance information for rookie family's

None of what you will read here matters if you do not work with your driver on being comfortable in the car. Please make time to work with your driver, get them in there gear and used to wearing it, make it fun, let them watch TV with there helmet on, it will be allot of weight on there head they may not be used to wearing. Next is get them in the car, set the seat belts and strapped them in, pull the belts tight. Again make it fun, take an iPad and turn on a racing video on YouTube let them sit in the car and pretend to drive. Listen for feedback and watch them in the car, make changes to get them comfortable. Think of yourself on a long drive with a seat that's not adjusted to you or broken and cant move... your uncomfortable, and it makes the trip miserable. You want your driver in the car not thinking about their elbow hitting a bar, or their helmet banging the roll bar with no padding, or their knee hitting the steering column. You almost want them to be able to nap while sitting in the car, that's the level of comfort you're trying to achieve. Work with them, get them comfortable, it will pay dividends on the race track.

Helpful information:

Safety products: The following are just a few vendors that are very helpful to get you started.

Race Day Safety – Dallas GA (770) 505-0193 or (470) 377-4460

<https://www.racedaysafety.com/>

Racequip – Riverview FL (813) 642-6644

<http://www.racequip.com/kidsracinggear.html>

A1 Racing – Warminster PA 800-669-8442

<https://www.a1racing.com/>

.25 Midget Chassis Builders:

Bullrider Race Cars <https://www.bullriderracecars.com/page/page/4674599.htm>

Storm <http://stormchassis.com/>

Nervo <http://www.ncchassis.com/>

Tad Fiser <http://tfracing.com/home.asp>

Stanley www.ultimateqm.com

PDX Chassis - Dave Falini Kennett Square PA (610) 495-0106

.25 Midget Parts Sales:

Nick Anderson BQMRC Parts Trailer – Nick@mcsracing.com <https://www.msrace.com>

Pensyl Enterprises – Ed Pensyl, PA, (610) 730-8704 www.Pensylent.com

Prodorutti Quarter Midget Supply – Frank Prodorutti, PA (215) 362-0113 <http://prodorutti-supply.com>

Buckwalter Motorsports & TSL Shocks – (610) 326-4767

Quarter Midgets USA <https://www.quartermidgetsusa.com/default.asp>

The Little Speed Shop <https://thelittlespeedshoppe.com/shop>

Hanning Racing Components LLC <https://winwithhrc.com>

.25 Midget Car & Parts Classified Groups – On Facebook search:

Quarter Midget Classifieds – Northeast Plus

Quarter Midget Swap and Sell

Quarter Midget / Karting Racing Classifieds

Bullrider Race Car Swap and Sell

Quarter Midget Parts for Sale Trade

Anything Quarter Midgets for Sale

Quarter Midget Sales

Knowledge Base info:

Nascar Youth Series Home Page <https://www.nascaryouth.com/>

Technical Document Page <https://www.nascaryouth.com/tech-documents>

FMI Knowledge Base <http://kb.fmiracing.com/home> **Tons of information here**, set up sheets, glossary of terms, cross weight, etc...

Honda Gear Chart <http://www.prodorutti-supply.com/HondaGearChart2.pdf>

Engine Builders:

Lederer Motors – Jeff Lederer <http://lederermotors.com/> Pottstown PA (610) 495-1407

A-Main – Dave Falini [Facebook/AMainDave](#) Kennett Square PA (610) 495-0106

Baker - <https://baker-racing-engines.com/>

R Motorworks – PA (610) 434-9114

Seat Belts

- Used belts show cut or frays
- All belts are double backed through the hardware
- No belts are exposed under the tail cone.



*Must be covered, or wrapped in metal tape, or removed from engine compartment

Steering Wheel

- Hub is secure on steering shaft
- Wheel if not removable is secure (all bolts tight)
- Removable wheel hub is tight to wheel
- Hub locks into steering column properly.
- Removable wheel disengages to come off freely

Exhaust

- Muffler to exhaust is safety tied or has spring in place
- Not in contact with fuel or breather line

Kill Switch

- Properly mounted on welded in bracket (not zip tied, taped on, etc...)
- Wires are tight and switch works properly to shut off engine.
- Rookie switch required is mounted properly functions in tandem with drivers compartment switch.

Brakes

- Rotor is in good condition (no cracks and not paper thin)
- Pads are in good condition (sufficient material on brake pads for the season), no leaks at caliper
- Brakes function and shut off engine when applied under part throttle
- Pedal has no binding, comes back up when pushed down,
- No visible fluid leaks in brake system

Fuel

- All clamps are tight, Fuel valve handle is tight and operates (open/close)
- Fuel line is not old, hard, dry rotted. Has slack needed for chain adjustment.
- Fuel Vent line properly installed, Fuel Vent Decal is present on body panel
- Fuel cap has a good rubber O-Ring without cracks
- No leaks present throughout fuel system. *Check under tank at fuel vent line fitting.

Throttle

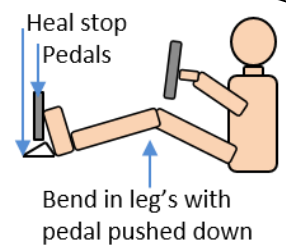
- Recommended – Gas Pedal has a stopper and pedal can not fall down toward driver.
- Recommended - Throttle return spring for novice, separate spring is present on engine linkage.
- When pedal is fully pressed, it returns back smoothly to allow engine to idle
- Cable slack (extra cable) secure to allow pedal function & will not cause a stuck throttle condition.
- Throttle cable sleeve long enough to prevent binding, & secure near pedal and into engine linkage
- Throttle is adjusted for drivers experience level (i.e.: Half throttle first day of rookie school)

Body Panels

- No exposed sharp edges in driver compartment
- Belly Pan/Lower panels are secured, cannot dig into the track
- All body panels are readily removable (i.e.: Not permanently attached)

Driver *Must be present at time of inspection

- Legs do not interfere with steering system
- Must be able to reach and operate pedals in normal seated position
- Head rest must not hold drivers helmet outside the left side nerf bar



- Drivers legs are not locked straight out



SAFETY INSPECTION AND REGISTRATION FORM

Safety Decal Serial Number _____

(Mounted on back halo of car)

Car Related Items

- Roll Cage
1" min clearance from top of driver's helmet to bottom of roll cage
- Seat/Shoulder Belts (2 yr., maximum, SFI 16.1, Anti-Sub)
Exp. Date _____
- Nerf bars/Bumpers
Min. (3) 6/32 bolts, Grade 5 min. - Min. 3 bolts for nerfs includes shoulder bar
- Shoulder Bar
Min., 8/32 bolt at spud or clamp - Grade 5 min.
- Axles/Hubs
Axles not past wheels
- Belly Pan
Min., gauge 0.040 AL, no open holes
- Fire Wall
Min. Gauge 0.048 AL, no open holes
- Steering Wheel
1" thick, 2" diameter pad., min
- Steering
No over center, binds
- Ignition System Fully Functional
- Brakes
Heel stop or Hop style pedal, Metallic outer shield brake line

- Fuel System
Min.. of 2 hose clamps must be used if hose clamps are used. Ties and duct tape not permitted; min., 2 wraps of safety wire
- Fuel Line
Rated for Gasoline or Methanol
- Fuel Sleeve
Fire resistant sleeve
- Fuel Filter
Steel or Aluminum
- Check shut valve for leaks
- Vent hose end open & correct length
(see 2020 rule book)
- Exhaust system
- Throttle cable
(no binding)
- Tail cone
(below top of bumper)
- Tires/Wheels
(three lug nuts)
- Oil catch can
(Located under tail)

- Weights
(Ballast cannot be mounted any higher than 5" above the bottom of lower frame rail. No ballast can be mounted to the body panels. Ballast can be mounted in the left side kick out but must be bolted to a metal kick out floor pan, a tab or a frame upright. Ballast in the kick out cannot be mounted to the side of the body panel or to a fiberglass floor. The kick out floor pan must be attached to the chassis with tabs, bolts or rivets, in order to attach any ballast. ALL weights attached through metal belly pans shall be secured with a min., 1.5" fender washer and bolts so that the bolt heads will not pull through the belly pans. Two (2) bolts are required if ballast is 6" or larger in length or width)
- Side Panels
L _____ R _____
(2" hole for access to flywheel nut; Max. 22" high)
- Enclosed Nose Section
- Hoosier Decals
- USAC, USAC.25 Cook Out decals

Driver Equipment

- Helmet
Snell SA 2010 or higher or SFI 24.1 2010 or higher
- Face Shield
No cracks, SFI 3.2 A/1 min.
- Neck Collar
Nomex or Equivalent or Head & Neck Restraint SFI 38.1 Certified

- Arm Restraints
Worn close to wrist, not above elbow
- Suit 1 or 2 piece
SFI 3.2 A/1 min., no jeans; SFI 3.2 A/5 & head sock in Formula Mod
- Shoes
Completely cover feet, flat bottom
- Gloves
SFI 3.3/5, 1 layer

Effective January 1, 2012, Head and Neck Restraint Systems shall be inspected for recertification every five years after the date of original certification. Product inspection, maintenance, and/or replacement procedure is per individual manufacturer. Inspection must be done by the original manufacturer only, and not authorized resellers or dealers. When a unit is determined by the manufacturer to be acceptable for continued service and in compliance with the current version of the specification, the original manufacturer shall place on the product a new SFI 38.1 conformance label marked with the inspection date.

Driver's Name: _____ Handler's Name: _____

Safety Director Print/Sign : _____

Class: Rookie 120 160 Form Mod Animal W/F
 Division: Junior Senior Light Heavy Unrestricted

USAC.25 Required Weights By Class/Division

Class	Division	Driver Weight (Min)	Comb. Weight (Min.)	Car Weight (Min.)
Rookie	Red	N/A	265 lbs	160 lbs
Rookie	Blue	N/A	265 lbs	160 lbs
Honda	Junior	N/A	265 lbs	160 lbs
Honda	Senior	N/A	290 lbs	160 lbs
Honda	Heavy	100 lbs.	340 lbs	160 lbs
Honda 160	Light	N/A	290 lbs	160 lbs
Honda 160	Heavy	100 lbs.	340 lbs	160 lbs
Animal	Junior	N/A	265 lbs	160 lbs
Animal	Senior	N/A	290 lbs	160 lbs
Animal	Unrestricted	100 lbs	340 lbs	160 lbs
World Formula	Light	N/A	290 lbs	160 lbs
World Formula	Heavy	100 lbs	340 lbs	160 lbs
Formula Mod	Light	N/A	290 lbs	160 lbs
Formula Mod	Heavy	100 lbs	340 lbs	160 lbs

Rookie Cars:

Each car will need a restrictor plate installed between your engine and carburetor. We will start out all cars with a red plate. As we graduate drivers along, they will later change the red plate out for the blue plate. The blue plate will remain in for blue rookie and remain in for any driver 5-8 years old entering into Jr Honda, if a driver is age 9 and up they will then pull the plate out and move into unrestricted rookie. Once they complete unrestricted rookie, they will move into Senior Honda. Our Rookie director will be working with each family to determine when a driver is ready to move into the next step of the program.

Check your engine to see if a restrictor plate is installed, or ask when buying the car if they have any Honda restrictor plates you can have. This could save you a few dollars.

Assuming your engine does not have a plate installed you should only have one gasket between the engine and the carb. You should be able to remove the air filter, remove the 2 nuts under it and slide the carb forward without damaging the existing gasket installed between the carb and engine, however if the carb gasket tears you will need to replace it.

Gaskets: Need (1) possibly (2) http://www.prodorutti-supply.com/mm5/merchant.mvc?Screen=PROD&Product_Code=5-001-3



Red Plate & (Blue Plate will be needed later)

Available to purchase through the club or with any engine builder

Plates run about \$15 each



Restrictor plate will install on engine in the order as follows:

Engine / Gasket / Restrictor Plate / Gasket / Carb

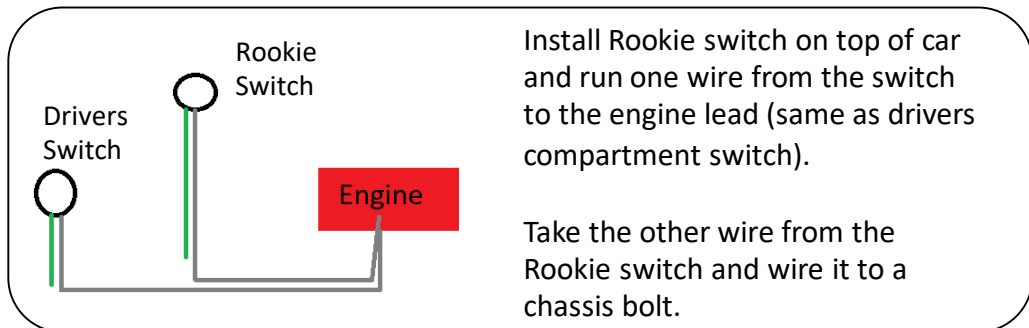
We will be limiting throttle on all rookie cars until otherwise instructed to half throttle. Most cars do not have a throttle stop behind the gas pedal however some do, if you have a throttle pedal equipped with a bolt behind it, run the bolt out and set it so the car can only go half throttle. (Club safety team will verify its set correctly and help if needed)

Cable stops: http://www.prodorutti-supply.com/mm5/merchant.mvc?Screen=PROD&Product_Code=1-T75005C

If you do not have a throttle stop installed, you will need to purchase a cable stop.

To install; remove the throttle cable from the car to install a cable stop on throttle linkage at the engine as shown. Set throttle cable stop to limit throttle to half.

(Club safety team will verify its set correctly and help if needed)



Rookie Switch:

An additional ignition shutoff switch needs to be secured top left side of the chassis and wired in tandem with the drivers compartment switch. You can make up a bracket at home or purchase something like this bracket <https://aandjracing.com/products/top-frame-mount-novice-rookie-switch-7-8> Don't forget to pick up a switch for it also. If correctly installed both switch's need to be on for the car to start. Rookie switch on top of car will face forward when on. Turning off either switch shuts the car off.

Bring your car with throttle cable stop installed if possible, gaskets for restrictor plates, and rookie switch on day one . We will have restrictor plates available for purchase and can help install if needed as long as you have the parts.

Engine Maintenance:

To aide in a better overall experience its best to bring a car that's running good. There's nothing more frustrating then having a excited driver ready to finally get going and have a car that will not go.

Fuel: 87 octane. Make sure the inside of the fuel tank is clean, no debris inside. If there's old gas in it drain it and plan to clean the carburetor. Replace the fuel line if its aged and hard. If a fuel filter is installed make sure its not clogged.

Fuel vent line from the tank must exit the left side body panel. (See Nascar Youth safety form for more info)

Rubber O-ring on fuel cap should be free of cracks, if not you need to replace the O-ring.

Engine & Gear box oil:

5w 20 weight oil, Amsoil Dominator racing oil is a good choice but not necessary. It runs about \$15 a quart. 13oz in engine, 4 oz. in gear box. (need to pull engine to drain the gear box oil)

Spark Plug:

Several to choose from such as NGK CPR9EA9, most run BRISK http://www.prodorutti-supply.com/mm5/merchant.mvc?Screen=PROD&Product_Code=SP-15ZC

Air filter:

Clean the air filter or install a new one. Uni is a good choice part number UP-4245AST use UNI air filter oil or K&N air filter oil. Clean after each race day with K&N filter cleaner, light degreaser or dawn dish soap. Let dry and re-oil.

Chain:

Do not over look this its very important your engines chain is lined up engine gear to axle gear are aligned correctly. If not you will tear up the gears and the chain. Chain links should be free when removed from the car all links should pivot and not bind up. The chain should not be rusty or have any kinks. It will just cause the car to throw the chain off constantly.

Valve springs:

Honda 120 springs in intake and exhaust. Once we start racing competitively, in blue plates, you will want to change these every 4 races or so. Talk with your engine builder for recommendations. Ask for help changing these the first time, its very easy to drop a valve into the engine.

Additionally you can reach out to the builder of your engine and take it to them to look over. Usually any other builder will help you as well for service and dyno tuning. Sometimes changes can be made to make a big difference (carburetor jetting, etc...)

Blackbird car set up: - Baseline to get you in the ball park, Talk to people racing at your track that run the same chassis. Ask them or the chassis manufacture what they recommend.

Ride height - 1 & 5/8" As you get competitive you will want to dial this in.

Shocks - For rookie school you want shocks that work. When you get competitive you will likely want to start looking into your shocks numbers to see what valving they have. For blue rookie (Jr Honda) typically 3 valve shocks on all for corners is a good start. (3 on compression / 3 on rebound)

Springs - Same as above for rookie school you just need 4 springs on the shocks but as you get competitive you will want to dial these in. To weak or heavy a spring will make the car drive terrible.

Wheels - Same as above for rookie school you just need 4 that work and are not bent. As you get going you will want to play with your wheel offsets and wheel spacing off the body, etc...

Tires - For red, blue rookie you will want Hoosier D10's on all for corners of the car. As far as tire sizes talk to people racing at your track that run the same chassis. Ask them or the chassis manufacture what they recommend. As you get more complete and move up into JR's you will want to have a set of right side A35 harder compound tires.

Stagger - For rookie school you just need 4 tires that hold air. Typically you will want about 3" stagger in your car at Blackbird (difference in tire circumference left rear to the right rear) as you get competitive you will want to dial this in.

Tire Pressure - Left side tires 3-4 lbs., right side tires 4-5 lbs. You will need a good air gauge 1-15 lbs. is all you need. Check air pressures before each time the car goes out. As you get competitive you will [want to dial these pressures in. http://www.prodorutti-supply.com/mm5/merchant.mvc?Screen=PROD&Product_Code=1-852033](http://www.prodorutti-supply.com/mm5/merchant.mvc?Screen=PROD&Product_Code=1-852033)

Cross weight, balance, etc...: For rookie school this is not a major concern, set the car to a decent ride height. For a set up once you have your shocks and springs dialed in you will then want to get the car on scales and good set up in the car. Talk to people racing at your track that run the same chassis. Ask them or the chassis manufacture what they recommend.

Typically on scales as a baseline you will be shooting for a car with:

40% front weight, 60% rear weight

55-58% left side weight, example 57% left side, would put the right side at 43%

Cross weight left rear to right front - 55%

Rear bite - 25-28 lbs.

Again the above will get you close talk to your chassis manufacture or folks running the same chassis for more information.

You do not need fancy \$1000+ scales. To get started put the money into the car, and use 4 good bathroom or postage scales. Download the iRaceWeigh app on your phone. Plug the numbers into the app from the scales and it does the same thing the fancy high dollar scales do to get you your set up numbers.