

**Full Throttle Motor Speedway @ Varney
2024 Junior Late Model Rule Book**

2024 5 to 15 years old (over age pre-approval with Officials is required)

1. DIMENSIONS:

- Wheel Base 60" (150 cm) Plus or Minus ½"
- Track width (overall) 46" Maximum
- Length Body 110" (275 cm)
- Height – 30" **Minimum**
- Fuel Capacity 1 – ½ gal
- Ride height minimum 1" left side door rail. (Body cannot be lower than the frame)

2. BODY

- Laminated Fiberglass
- Lexan Windows **NO WINDOW TINTING**
- Must be able to see through rear window out front window from behind
- Primered or Colour Impregnated gel-coat
- Available in Monte Carlo, Charger, Toyota, and T-Bird / Impala / Toyota / Fusion
- Roof Hatch must be attached properly and securely

3. ENGINE

- Dyno. Equalized with 2 unaltered Engine Seals
- Honda GX270 – 9Hp.
- OHV single cylinder
- Air Cooled
- Displacement 270cc
- Bore and Stroke 77 x 58mm
- Clutch/centrifugal or pad or 4 Disc
- Gearing-split axle sprocket
- Drive-Chain driver
- Seals – Crankcase, Head mandatory

4. CHASSIS

- 1 ¼" x .095" mild steel tubing, or 1" D.O.M or Chrome-Moly .085 minimum wall tubing.
- Chassis must have an approved 2022 Home Track official tech sticker – tubing type, weld quality, driver safety, technical measurements as set out by rules package.
- Drivers safety cage
- Drivers helmet must be 1" below top of roll cage halo with belts on (**Mandatory**)
- Adjustable steering with clearance from steering wheel when driver is belted in seat properly
- Adjustable pedals

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5. SUSPENSION

- Front – rigid spindle supports with camber/castor/toe adjustment/**No ceramic or tapered in front hubs bearing allowed**
- Perch style with 3/8 king pin or bolt on arms with a **solid load bolt** for adjustment for wedge must lock in place with no movement.
- **Rear** – 1 ¼ hallow tube no longer than 44" live rear axle with track pre-load adjusters / **No ceramic axle bearings allowed**

6. WHEELS AND TIRES

- **Wheels – Alum Rims – 8" x 6"**
- Tires – Spec. Tires (racing slicks)
- **(American Racer – M32) or (Hoosier tire – MC-780)**

7. SAFETY

- 1 gal or 1.5 gal. Fuel cell
- 5-point harness (maximum 3 years from date stamp)
- Driver's window net
- Firewall (between engine and driver)

8. BRAKING

- Hydraulic disc brake (rear)

9. STEERING

- Rack and pinion 3/8 rod ends
- 1" Spindles OR ¾" allowed (NO tapered spindles or tapered bearings allowed)
- All rod ends must steel no alum all bolt and nuts must be nylon lock nuts

10. AIR CLEANERS

- **(Mandatory)** Stock parts only, including filters, as supplied with motor. No ram tubes or ducting allowed. Stock air cover not required.

11. APPEARANCE

- Race cars participating in racing events must be presentable in appearance at all times. Home Track Tech Officials may reject cars that are considered improperly prepared at any time.

12. BATTERY

- Must be anchored securely and separated from the driver compartment and firewall

13. BODY

- Fiberglass bodies unaltered from production may be used

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14. BODY AND APPEARANCE

- Body must be straight, sound, stock appearing and in stock position on frame. Alterations or customizing to gain any advantage is prohibited. Original wheel arches must be retained. Original body seams must be retained. No hood pins or fastenings devices out-side of body. Lexan rub rails allowed, 1 ¼" out max) must be within wheel track – 46" MAX.
- Cars will not be permitted on racing surface for practice or races without the car body in place and secure. In the event of an on-track incident where body panels are lost, **Home Track** officials reserve the right to disallow a car from continuing to compete if they feel there is a safety concern. The front bumper, hood and windshield must be on the car to continue (shielding the driver from outside debris).
- In the event a car starts a race missing a body panel, it is the responsibility of the team to ensure the car is legal before and after the race. (i.e. meets minimum weight requirements for the division being competed in.)
- Rear spoilers optional
- Rear bumper fiberglass **height 10" to ground at 30" roof height (1" tolerance)**
- Front nose height and frame **1" ground clearance**

15. BRAKES

- Hydraulic brakes on rear **NO** front brakes. Brakes on each car will be tested for pedal "feel". Drill rotors are allowed for cooling, 6" to 10" rotor allowed. **Floater hubs allowed only on brake rotor**

16. BUMPERS

- External bumpers are prohibited. **Max size 1" x .095 wall, 1 – Rear, 2- Front**

17. CHASSIS

- All chassis. Alignment may be adjusted i.e. caster, camber, toe-in. **Minimum ride height of 1" driver's door frame rail and body to ground.**

18. CLUTCH

- **Dry centrifugal clutches only**
- Engagement springs may be changed. No other modifications
- North American 3 pad or Brutus 4 pad Jammer or Horstman 4 disc (**15 tooth only MANDATORY**)

19. DRIVE-AXLE

- Drive axle sprocket may be changed to acquire desired gearing. Chain length may be altered accordingly. Axle C-Clip on each end of the Axle 1 ¼" dia. only Steel no longer than 44". No floating drive hubs allowed both key ways must be in at all times.

20. EXHAUST SYSTEM

- Exhaust header only
- Pipe size 1 ¼" O.D. **Mandatory**
- 24" – 26" length measured from exhaust flange at motor to end of muffler measured on outside of bend
- No stepping in exhaust pipe tube. All exhaust connections must be sealed. (i.e. no exhaust leaks.)
- Temperature sensors not permitted in the exhaust system
- Muffler rule – optional

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21. FIREWALL

- Rear firewall must be steel and in original location behind seat with all holes filled.
- Top part of firewall behind driver must be made of 1/8" Lexan and seal driver from engine compartment.

22. FUEL PUMP

- No electric fuel pumps
- Vacuum fuel pumps only

23. FUEL

- Commercially available pump gas or approved racing fuel allowed. **NO straight Alcohol or Methanol allowed some pump fuel contains 8% alcohol.**

24. FLOOR

- Floor can be made of 22 – gauge steel, or Aluminum sheet metal. Rear firewall must be 22-gauge steel only
- A steel 1/8" or bolted in 3/16 aluminum floor plate under drivers' seat (**MANDATORY**)
- A 3/16 aluminum plate can be used from front of seat to nose of car for pedals to bolt to.

25. DUCTING

- **NO air ducting allowed for any reason**

26. FUEL CELL

- Plastic 1 gallon or 1.5-gallon fuel cell only. Must remain securely mounted in fuel cell bracket. Car will be disallowed from competition if there are any fuel leaks.
- **DO NOT** re-fuel with driver in car and/or engine running.

27. GRILLE

- Grille area must remain sealed

28. HOOD

- Hood pins must be used. Fiberglass hoods ONLY. Must remain stock as supplied.

29. NOSE

- Older design chassis to newer chassis are allowed to run ground effects on nose and rocker panels. **1" ground clearance minimum**

30. IGNITION

- Ignition "kill" switch must be mounted in such a manner that the engine can be turned off from outside of the car in the event of an emergency. Ignition switch must be labelled.

31. INTERIOR

- All interior panels must be 22 gauge. Steel or aluminum. Rear firewall behind seat to shoulder height must be steel separating drivers' area from engine compartment. Must have front wheel wells made of fiberglass or aluminum.
- Driver compartment must have padding around all head, arm, and leg areas of possible contact.
- Tie rods and steering components must be covered safely from driver leg area.

32. INSTRUMENTS

- Optional tachometer/head temp gauge allowed only (No weather stations)

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33. MIRRORS

- Allowed

34. PAINT AND LETTERING

- All cars must be neatly and brightly painted. Numbers, assigned by the track, must be painted (or decaled) on both sides of the car and hood (readable from right side) in a colour offering distinct contrast to colour of car. Numbers must be minimum of 12" high and 3" wide. Numbers must be legible (subject to approval of Head Scorer). NO "trick" lettering. No gold chrome or silver but day glow is fine.
- **NOTE:** Both front fenders (considered being from nose of car to the number on the door) and windshield banner shall be completely free of lettering decals. Each **Home Track** retains the right to specify type, size, and location of all decals on front fenders and windshield for their Speedway and sponsors may differ at each track.

35. PEDAL ASSEMBLY

- Location may be altered to suit driver. Steel kart pedal or alum. A.R.C. Assembly allowed

36. ROLL BARS

- Any roll cage repairs must be made with 1 1/4" O.D. x 0.095" tubing. NO modifications to original roll cage
- **NOTE:** Grandfathered chassis' use 1" o.d. x 0.085 D.O.M.

37. SAFETY BELTS AND HARNESS

- A quick release 5-point belt of no less than 2" in width in good condition is **MANDATORY**. Belts must be securely fastened to the chassis by means of suitable reinforced mounting. **Belts older than 3 years past the date of manufacture MUST be replaced.** Two window nets are mandatory (left and right side), or right-side window removable from out side of car with no tools.

38. SAFETY HELMET AND APPAREL

- **Helmet** – Minimum Snell rated full – face helmet with eye shield required. (**SA2015 or newer mandatory**)
- **Driver Suit** – 1 or 2-piece, full body, single layer Proban or Nomex required. (SFI rating mandatory) **ABSOLUTELY NO NYLON OR OTHER FLAMMABLE MATERIAL**
- **Footwear** – Full leather upper shoe or Nomex driving shoe required
- **Balaclava** – Nomex balaclava strongly recommended
- **Arm Restraints** – Recommended
- **Socks** – Nomex socks strongly recommended
- **Gloves** – Single layer Nomex glove or full leather gloves **mandatory**
- **Head and Neck Restraints** – Are mandatory HANS or Nex-Gen or ZAMP
- **NO Two – Way Radios Allowed** – exceptions will be made for ROOKIES ONLY, for safety purposes only.
- **Note: Both left and right-side head support are still needed MANDATORY**

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39. SEATS

- An approved Aluminum racing seat is mandatory and must be securely bolted (Grade 8 fasteners only) to the roll cage and/or frame with 4 bolts (2 lower and 2 upper).
- Solid and padded Left and Right head rest is mandatory

40. WEIGHT

- Minimum weight requirements (after race completion). Cars will be weighed with the driver as raced.
- JR Ages 5-11 is 600lbs. Minimum
- SR Ages 12-15 is 630lbs. Minimum 7
- **Cars will be weighed with the driver as raced**

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41. WEIGHT LOCATION

- **55% left side percentage.** No front to rear rule
- Weight must be securely bolted between outer frame rails and behind front axle and a head of rear axle centers, with a welded in bracket with 2 bolts and painted white with your number on it.
- Do not bolt to tin floor only

42. WHEELS

- 1 piece aluminum 8"x6" – Blue .125, Black .160, Red .190 thick (6061 alum.) NO LIGHTWEIGHT. Same offset wheels must be used from left side to right side and front to back. Aluminum wheels must be made by Douglas. Spaces on spindle don't have to match side to side.

43. WHEELBASE/TREAD WIDTH

- All cars must retain a stock wheelbase THE variance that will be allowed – **60" + or – 1/2"** **between both sides max. Tread width 46" outside to outside** of tire at spindle height

44. WINDSHIELD/WINDOWS

- Windshield, rear window, opera windows and firewall window must be retained. Minimum 1/8" Lexan must be used. NO unapproved marking on windshield. (This includes drivers name, manufacturer identification, etc.)

45. MOTORS

OLD STYLE ENGINE SPECIFICATIONS

- Block may be bored to the three oversizes' available from Honda, .25mm, .50 mm, .75mm
- Piston dish must be minimum of .037"
- Piston may be a maximum of .003" above deck
- Stock Honda rings must be used and installed properly
- Any ring gap is allowed
- Stroke shall be 58mm or 2.287" maximum
- Stock or .010" undersize rods allowed
- Spark Plug – any spark plug allowed
- Stock valves, rockers, and keepers, stellite EX allowed
- Valves may be refaced

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- Any valve sprints allowed
- 9HP carb. Stock Jet and Emulsion Tube allowed only **NO jets larger than 92 allowed NO MODIFIED CARBS**
- **Choke plate and mechanism can be removed**
- Minimum head cc is 26
- 3 angle valve jobs allowed
- Cylinder head thickness from deck surface to valve cover surface is **3.730 minimum**
- Head gasket is composition .042" minimum
- Any flywheel air gap permitted
- Stock GX270 flywheel and locating key
- Carb **throttle bore .792 maximum**
- Carb venturi **.635" maximum**
- Any vacuum operated fuel pump
- Any camshaft timing allowed
- Coil bracket and mounting holes must not be altered from stock
- No metal removed or added to the camshaft or clutch being used
- Cam lobe height intake 1.240" minimum – 1.265" maximum
- Cam lobe height exhaust 1.240" minimum – 1.263" maximum
- Maximum lift at intake valve .280"
- Maximum lift at exhaust valve .275"
- Camshaft may not have lobe separation angle changed from stock able
- NO porting, NO polishing, No deburring, NO matching

Note: All engines must be properly assembled in accordance with Honda shop manuals. I.e., Piston arrow to the bottom of the cylinder, valve guides in stock location **old motors use old parts/ new motors use new parts. NO interchanging**

****All parts may be compared with known Honda parts to verify their originality.** One off part will be considered unacceptable manufacturers deviations.

ALL DECISIONS BY PIT STEWARDS, CHIEF TECHNICAL INSPECTOR OR EXECUTIVE COMMITTEE MEMBERS WILL BE FINAL, ALL RULES SUBJECT TO INTERPRETATION BY OFFICIALS. RULEBOOKS WILL BE ISSUED TO MEMBERS.

GOVERNED BY THE AFORMENTIONED RULES ARE TO BE SUBMITTED TO NOT LESS THAN 30 DAYS PRIOR TO THE DATE OF INTENDED USAGE. NO EQUIPMENT WILL BE CONSIDERED APPROVED BY REASON OF HAVING PASSED THROUGH INSPECTION UNOBSERVED, RULES APPLY TO ALL RACE EVENTS.

- **Crankcase oil – use 4-cycle engine lubricating oil that conforms to SAE or API standards with additives. A sample maybe asked for at any time by TECH. For testing.**
- Engines may be built by anyone, to accordance to Honda shop manual BUT can only be dyno or sealed by an Approved facility:
 - Keith Marshman – (519) 245-0425

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- Dave McAdams – (519) 686-8034
- Ryan Custer – (519) 819-0481 (with a serial trace)

- **New replacement Rod with bearing is – GX 270 PART # ARC - #6261**
- **MAX Horsepower with stock parts is – approx. 11 HP MAX.**
 - **CARBS – no interchanging of carbs between motors (New with New / Old with Old)**

Rules for New GX270VT2

1. Governor may be removed
2. Decompressor must not be removed
3. Block may be bored to the three Honda oversize
4. Piston dash may be a minimum of .037
5. Piston may be a minimum of .038 below deck
6. Stock Honda rings must be used and installed properly
7. Any ring gap allowed
8. Stroke shall be a maximum of 58mm or 2.287
9. Stock or .010 undersized rods allowed
10. Stock Air Cleaner, Filter, and Pre-filter must be used.
11. Spark Plug – Any spark plug allowed
12. Stock 25K valves, rockers, and keepers, stellite exhaust allowed
13. Vales may be refaced but not excessively

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14. Any valve spring allowed
15. Stock carb jet and emulsion tube allowed. **No jets larger than .92 allowed NO MODIFIED CARBS**
16. Carb must be BE21JA model
17. Minimum head CC is 25
18. Minimum cylinder head thickness is 3.728
19. Head gasket is steel .009 thickness
20. Any flywheel air gap allowed
21. Any vacuum operated fuel pump allowed
22. Only stock ignition timing with stock key allowed
23. Coil bracket and mounting holes must not be altered from stock
24. Only early style flywheel and coil allowed (fixed timing)
25. Carb throttle bore is .832 max
26. Carb venturi bore is .676 max
27. Camshaft intake lobe height is 1.265 max 1.250 min
28. Camshaft exhaust lobe height is 1.225 max 1.245 min
29. Max lift at intake valve at 0 last is .282
30. Max lift at exhaust valve at 0 last is .270
31. Camshaft must have stock lobe separation angle
32. Three angle seat grinds allowed
33. No porting, no deburring, no matching

Transponder location: 65" from the front of the car. Must be mounted facing downwards

**Home Tracks utilizing these rules:
Full Throttle Motor Speedway @ Varney
(519)791-7326
fullthrottlemotorspeedway@gmail.com**