

# 9HP MODIFIED MINI SPRINT TECHNICAL RULES

1. **FRAME:**
  - Chassis frame and main roll cage must be constructed of the following:
  - Round chrome-moly with a minimum of 1 1/8" diameter x .083 wall thickness.
  - Seamless round tubing with a minimum of 1 1/8" dia x .090 wall thickness, or mild tubing.
  - No suspension parts allowed. Suspension parts include the use of shocks, springs, torsion bars, coil-overs, compressible/expandable devices that exceed 1/2" of travel.
  - Foot hoop is mandatory (see diagram on page 21)
2. **FRONT AXLE & SPINDLES:**
  - Must use cotter pins or safety clips to prevent axle and spindle nuts from coming off.
  - If a front axle is used, it must be a one piece axle mounted directly to the frame.
  - Two piece front axles are allowed and must have locking collars to prevent axle from moving out.
  - The use of rod ends or heim joints will not be allowed to be incorporated into either a one or two piece axle. Spindle tethers mandatory.
3. **Designs not covered by the above must be approved by Grand Bend Speedway**
  - All side bars must be constructed of at least of 3/4" mild steel round x .065 wall thickness.
  - Right side must have at least one side bar mounted 20" - 26" above the bottom frame rail.
  - Left side must have two parallel bars, the top bar to be mounted 20" - 26" above the bottom frame rail and have the lower bar mounted parallel, 6" - 8" (inside dimension) below the upper bar.
  - A vertical bar must be mounted diagonally between the upper side bar and the top roll cage bar.
  - The attachment point of the vertical bar to the upper side bar will be 12" - 16" in front of the rear cage upright.
  - The attachment point of the vertical bar to the top of the roll cage bar will be 5" - 9" in front of the rear cage upright.
  - Left side door bars must have a minimum of two vertical door bars, being a minimum 3/4" dia x .065 wall steel tubing with a minimum spacing of 7".
  - All side bars are to be constructed and mounted to provide maximum driver protection.
  - Bars may be welded, coupled, coupled and pinned.
4. **STEERING:**
  - Steering Shaft Specifications:**
    - Solid minimum .625 (5/8") diameter cold rolled steel.
    - Hollow minimum .750 (3.4") x .070 wall d.o.m. tube.
    - Steering shaft must be one piece with no extensions.
  - Steering Wheel Mount:**
    - Quick release mechanism is mandatory.
    - No loose fitting quick releases will be allowed.
  - Rack & Pinion:**
    - Rack & Pinion steering boxes not allowed.
  - Steering Bolts:**

All steering bolts and nuts must be drilled and cotter keyed or safety wired.

**Note: Any fastener (nut or bolt, etc.) of a component that would enable movement of or adjustment of spindles such as caster, camber, etc., must be drilled and utilize either a cotter pin or safety wire.**
5. **DRIVELINE COMPONENTS / CLUTCH:**
  - Dry type engine mounted clutch is mandatory.
  - No transmission gear box or other device which permits a change of gear sprocket ratio while vehicle is in motion is allowed.
  - Torque converters are not allowed.
  - Disc type clutches allowed (max. 4 disc).
  - No direct drives allowed.
  - Crankshaft extension no more than 7".
6. **CHAIN GUARDS:**
  - A chain guard designed to retain a broken chain from reaching the driver is mandatory.
  - Chain guard must curve 120° around clutch and extend to rear of car to cover sprocket.
  - Chain guard must be constructed of steel or aluminum. (No plastic or lightning holes allowed.)
  - No automatic chain lubricators allowed.
7. **BRAKES:**
  - Hydraulic brakes only. (No scrub or band type brakes allowed.) All brake systems must be in good working condition.
  - All master cylinder and caliper bolts must be cotter pinned for safety.
  - Nylon lock nuts without cotter pins are prohibited.
8. **WHEELS / HUBS:**
  - 5" or 6" wheels only.
  - No bead locking devices allowed.
  - No screws allowed.
  - No wheel discs allowed.
  - No clip on wheel weights allowed.

- Both rear hubs must be locked to axle no floater hubs allowed.
- Rims must be made of aluminum and be an approved racing rim (E.g.: Douglas, Van K) by **Grand Bend Speedway** and shall have an approximate minimum thickness. 5" rim should have 1/4" wall thickness.

9. **REAR AXLE:**

- An axle clip must retain both rear hubs to prevent wheels from coming off. Maximum axle size 1-1/4" diameter, chrome-moly, steel or aluminum allowed. No titanium or aluminum axles allowed.

10. **WEIGHT / BOLT IN WEIGHT:**

- Mini Sprint cars must have a minimum weight with driver of 440 lbs.
- Any removable weight must be fastened with 2 bolts and be double nutted.
- Any removable weight cannot be bolted to nerf bars, front and/or rear bumper.
- Any removable weight must be painted white with your car number on it.
- Any car found to be illegal shall be immediately disqualified, and the next finisher shall be called to the scales.

11. **FRONT BUMPERS:**

- Front bumpers are mandatory. Must be constructed of minimum 3/4" o.d. x .065 wall and a maximum of 1" o.d. mild steel tubing.
- Front bumper must extend beyond all body parts.
- Must not extend beyond the inside dimension of the front tires.
- Must extend at least 16" forward of the front axle or spindle assembly.
- The upper hoop must be a minimum of 4 1/2" and a maximum of 6" from the bottom of frame rail.
- The upper hoop must be supported by at least 2 vertical bars in the front portion of the bumper by 3/4" x .065 wall or larger steel tubing.
- No weights mounted to front bumper.

12. **REAR BUMPERS:**

- Rear bumpers are mandatory. Must be constructed of minimum 3/4" o.d. x .065 wall and a maximum 1" o.d. mild steel tubing.
- Rear bumper must be constructed with 2 horizontal bars with a minimum of 2 vertical bars.
- The horizontal bars must be a minimum of 5" and a maximum 7" apart.
- Minimum height to be no lower than top of frame rail. Maximum width to be no wider than roll cage uprights.
- Rear wheel protectors are allowed and may be fastened to the bumper in a safe secure manner. May not exceed outside of rear tires.
- Rear bumper must be fastened on the back of the roll cage uprights.
- Rear bumper must extend a minimum of 24" behind the rear axle.

13. **NERF BARS:**

- Nerf bars are mandatory on both sides of the car. Must be constructed of a minimum of 3/4" x .065 wall o.d. and maximum 1" o.d. mild steel tubing.
- Nerf bars are to be a minimum of 24" in length, measured from back side of nerf bar closest to rear tire in a straight line to where it attaches to front of car. Nerf bars to have a minimum overall height of 5" at the highest point and a maximum height of 7" W'.
- Nerf bars must not extend outside of rear tires.

14. **FLOOR PAN:**

- The car shall have a floor pan under the frame rail covering a minimum area from front frame rail to front of driver's seat. Main floor pan must be constructed of 22ga. steel.
- Min. .100" steel plate or .125" aluminum plate must be bolted or welded under the driver's seat.

15. **ROLL CAGE & COCKPIT SPECIFICATIONS:**

- The roll cage must be a minimum height of 38" to a maximum of 44".
- The top of the driver's helmet must be completely below the bottom of the horizontal roll cage bars (2").
- A distance of 4" between the top of the driver's helmet and the bottom of the horizontal bars is highly recommended.
- The roll cage must be made of chrome-moly 1 1/8" x .083 wall, or seamless round steel 1 1/8" x .090 wall.
- The roll cage must be welded to the chassis in 4 locations.
- The top of roll cage must have gussets in all 4 corners.
- No sharp edges shall be left anywhere on the roll cage or brackets on the car.
- The roll cage must have 2 vertical bars mounted behind the driver's head.
- The roll cage must consist of continuous hoops front to rear.
- The roll cage must be connected on both sides and in the back and front by a minimum of 3/4" tubing.
- The driver must be able to climb through the space in the top of the roll cage.
- Driver's head must not be outside of the roll cage at any point.
- Roll cage padding on every bar within hand & foot area must be padded (Mandatory).

16. **FUEL TANKS & FUEL LINES:**

- Fuel cells are mandatory and may be a foam or bladder type.
- Fuel cells must be located in tail section with only the bottom section of tail being open.
- No pressurized fuel systems allowed.
- Fuel lines must be clamped at all connecting points.
- Fuel lines from fuel cell to the fuel pump must have protective covering to prevent a cut. Covering must meet technical approval.
- Steel braided line is recommended.
- Car must have a fuel shut off valve. Must be located over the right side bearing hanger bracket and must be easily accessible.

- No cool cans or other conditioning components. Max. 3/8" I.D. lines short as possible.
17. **TIRES:**
- A tire brand and compound may be specified.
  - Slick type tires only. (No re-caps allowed.)
  - No grooving of tires allowed.
18. **CAR DIMENSIONS:**
- Wheel base shall be a maximum of 48".
  - The maximum overall width shall be 54". This includes all parts of the car. The overall length shall not exceed 100".
19. **BODY DESIGN:**
- The front nose section may be wedges hood, or standard spring car style. The front nose section can be made of aluminum, fiberglass, or a poly-fiber substitute.
  - All cars must resemble a sprint style car.
  - The nose shall extend from the roll bars to a minimum of 1" from the back of the front bumper to a maximum of 4".
  - The nose must be in side the front wheels.
  - All cars must have a sprint style tail section to be made of fiberglass or poly-fiber substitute.
  - The tail section must be a minimum 2" from the axle to front face of tail section.
  - The tail section must be inside the rear bumper.
  - The tail section must not extend more than 29" from the axle.
  - The tail section must be mounted between roll cage hoops.
  - Body panels must be in place at all times. (Hood & tail sections).
  - All cars must be neat and clean appearing at all times.
  - The intent of these body rules are to insure uniform style "spring appearing cars."
  - Any cars not meeting these descriptions will be asked to make the necessary changes by the technical official.
  - **Grand Bend Speedway** reserves the right to refuse competition to any car not meeting or following these guidelines.
20. **NUMBERS / LETTERING:**
- All cars must be kept neat in appearance.
  - Numbers and letters must be done professionally.
  - Numbers and letters must be done in contrasting colours.
  - Numbers must be located in each of the following locations:
  - Front of hood - Minimum height 6"
  - Tail section both sides - Minimum height 9"
  - Wing both sides - Minimum height 8"
  - Numbers must be easy to read for scoring purposes.
21. **APPEARANCE:**
- Chassis, bumpers, nerf bars, bodies, etc., must be painted, plated or finished in a professional manner. (Any cars in question will be at the discretion of the tech department.)
22. **WINGS:**
- All cars must run a side panel wing only, with a maximum size of 10 1/2" high x 32" long and a minimum of 10" x 32".
  - Wing panels must be mounted on both sides of car.
  - Wing panels must be made of aluminum.
  - Wing panels must be clamped to roll cage. (No tie wraps allowed.)
23. **SEAT BELTS:**
- All cars must have a 2" or 3" 5 point safety harness.
  - Harness cannot be cut or worn in any place. Any belts in question will not be allowed.
  - Belts must be 3 years old or newer – tag must be visible
  - Any belts mounted in an unsafe manner will not be allowed.
24. **MIRRORS:**
- No mirrors will be allowed.
25. **IGNITION:**
- All cars must have an engine kill switch and is to be mounted in a location easily accessible to both the driver and the safety crew.
26. **SEAT / HEAD SUPPORTS:**
- High back aluminum seat is mandatory.
  - Seat must be bolted in 4 places with minimum 5/16" diameter bolts.
  - Right and left side head supports are mandatory.
  - Must be made of aluminum and have a padded cover.
27. **MOTOR:**
- Honda GX270 9.0 HP motor with a Honda GX390 13hp carburetor is mandatory. (New / Old specs to follow)
- Must be located on right side of car.
  - New style mandatory. Check with Technician.

## GX270 Motor Specifications - New / Old Design Engine

1. Governor mechanism may be removed.
2. Decompressor mechanism may be removed
3. Block may be bored to three over-sizes available from Honda .25mm, .50mm, and .75mm.
4. Piston dish must be a minimum of .037".
5. Piston must be a minimum of .003" above deck.
6. Stock Honda rings must be used and installed properly.
7. Any ring gap allowed.
8. Stroke shall be 58mm or 2.287" maximum.
9. Stock or .010" undersize rods allowed.
10. Stock air cleaner or snorkel type allowed.
15. Any heat range spark plug allowed as long as the reach is stock.
16. Stock valves and keepers, stellite ex allowed.
17. Valves may be refaced but not excessively.
18. Any valve spring allowed.
19. Any carb jet and emulsion tube allowed.
20. Minimum head cc is 26.
21. 3 Angle valve jobs allowed 7..
22. Cylinder head thickness from deck surface to valve cover surface is 3.736" minimum.
19. Head gasket is composition .042" minimum.
20. Any flywheel air gap allowed.
21. Any ignition timing allowed as per the flywheel key.
22. Carb throttle bore NEW 1.070" maximum. (13hp carb)
23. Carb venturi NEW .835 no go. (13hp carb)
24. Any vacuum operated fuel pump allowed.
25. Any camshaft timing allowed.
26. No metal may be removed or added to camshaft.
27. a. Cam lobe height intake NEW 1.240" minimum -1.265" maximum.  
b. Cam lobe height exhaust NEW 1.240" minimum -1.263" maximum.
28. a. Maximum lift intake valve NEW .280".  
b. Maximum lift exhaust valve NEW .275".
29. Camshaft may not have lobe separation angle changed from stock angle.
30. **Grand Bend Speedway** track fuel Street legal unleaded pump fuel only.. No additives, alcohol, aviation fuel, or leaded fuel allowed.
31. 1 1/8" Header pipe is permitted with a maximum length of 24" including muffler. Exhaust must exit the left side of the car.
  - a) All cars must run a RVL approved muffler only, and must be on car at all times. The pipe must enter the muffler by a minimum of 2" if clamped on.
  - b) If the muffler is clamped onto the header pipe it must also have a MINIMUM of two tack welds holding the muffler to the pipe. Must have guard over exhaust pipe.
32. No porting, polishing, deburring or matching allowed.
33. Crankcase Oil: Engine lubricating crankcase oil may be checked at any time by the technical inspector with a test for oxygen bearing or vapor producing substances, as these substances are prohibited, the technical inspector reserves the right to conduct oil sampling and testing at any time and by any method.
34. Crankcase Oil Type: It is mandatory that each competitor use 4-cycle engine lubricating oil that conforms to know SAE or API standards with no additives. A sample bottle of oil shall be provided to the technical inspector upon request.
35. Head vent tube may not return to engine.

### **Note:**

- All engines must be properly assembled in accordance with Honda shop manuals.
- i.e. - Piston arrow to bottom of cylinder valve guides in stock location.
- All parts may be compared with a known stock Honda part to verify their originality.
- Engine seals will become mandatory in 2008.Crankcase & head.
- Seals may only be done by Keith Marshman or Dave McAdams.