

*Long Island Minicup
Association*

**2004 Car Specifications
&
Rule Book**

2004 LIMCA Mini-cup Rulebook Index

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1.0 GENERAL CAR REQUIREMENTS

- 1.1 All bodies must be styled to resemble a NASCAR stock car. The body is required to fit the chassis properly. Hand made and /or home built bodies shall be subject to approval of the sanctioning body. The sanctioning body encourages the purchase of bodies from reliable and known sources.
- 1.2 Mini-cup specific parts such as spindles, cradles, A-arms etc. must be manufactured by MMI/Townsend/NC Chassis or Braits/Ultimate. No homemade or "better-engineered" parts. Manufacturer interchangeability is allowed. Bolt on or replacement parts such as heim joints, clutches, wheels, etc. must conform to this rulebook but may be purchased from any source.
- 1.3 Roof opening must be hinged in front only. Positive latches that can be opened from inside and outside body required. If hood and trunk are in working order, they must be held shut with positive pin fasteners-one (1) on each side or fastened in a manner acceptable to official(s). Roof rails no taller than 3/4 inches running the length of the roof and rear window are permissible. These are for aesthetics only and provide no performance advantage.
- 1.4 Cars must be neat appearing. Chassis must be painted or powder coated. Body interior may be left unpainted. Any body damaged must be neatly repaired by the next event.
- 1.5 Body must remain level with chassis and cannot be offset on frame. Body dimensions shall be:

	MIN	MAX
Width	40 inches	47 inches
Length	105 inches	115 inches
Height	30 inches	33 inches

- 1.6 All components shall be in top quality condition. Bodies cannot be altered from original manufacturer. Any reinforcement of the body must be acceptable to official(s).
- 1.7 Fenders may not be cut or altered except for tire clearance, subject to approval by official(s). No fender flares.
- 1.8 A non-adjustable spoiler must be attached to the rear deck lid. The spoiler must not be modified in any way from the original design and must be manufactured by the same company as the body it is installed on. The spoiler must maintain the same contour as the production deck lid.
- 1.9 Lexan must be a minimum thickness of .060, but may be thicker. Tinting of windshield only is permitted. Lexan may be attached by rivets or nut and bolt. Bracing is allowed on windshield or rear window.
- 1.10 Left side speedway window must have approved window net fastened to roll cage (may have quick release mechanism). Right hand window may have Lexan window that can be easily removed by safety crew. No enclosures of any kind will be allowed in the left speedway window.
- 1.11 No vents are permitted in right side speedway window.
- 1.12 Wink type dimensional mirrors permitted with a maximum width of 28 inches. Mirror glass must be secured with silicone or equivalent. Side view mirrors cannot extend outside the driver compartment further than 1/2". ALL MIRRORS ARE SUBJECT TO APPROVAL BY OFFICIAL(S). Mirrors should provide rear view of both sides.
- 1.13 All dashboards must be constructed of aluminum and fastened in place. All switches must be installed in dashboard on the left side of the steering wheel. All dashboards are subject

- to approval by official(s). Ignition shut-off switch must be labeled, showing on and off. The dash shall not hinder the driver from controlling the car in any way. The dash shall not obstruct the driver's view in any way.
- 1.14 A firewall constructed of aluminum and/or steel shall completely separate the vehicle into two areas known as the engine and driver compartments. The Floor of the vehicle shall be constructed of steel only with a minimum thickness of .030. (Rigid cars do not need a steel floor)
 - 1.15 Foot box interior must be constructed of aluminum at least 22 gauge. Panels must be securely fastened to chassis. Panels may be added to keep debris from driver's compartment. All interior panels are subject to approval by official(s). When enclosing front of foot box, material used must be aluminum not to exceed .090 thick and not to extend past vertical and horizontal bars.
 - 1.16 A maximum of 2 openings with a total of 16 square inches is permitted in the nose of the car. These must be covered by a layer of wire mesh attached by a one half-inch strip to hold the wire to the outer-edge of the opening. All openings are subject to approval by official(s). No openings are allowed in rear body section.
 - 1.17 One engine cooling hose from the outside of the vehicle to interior of engine compartment is permitted. This hose must be mounted in the rear side window. The pickup point of the hose must not extend outside body lines of the car. The hose, or an extension thereof, must not extend more than 1 inch past the inside edge of the firewall or engine covering. The diameter can be no larger than 3 inches. The rear window may not be altered or drilled.
 - 1.18 Bumpers must be hollow steel tubing and fastened to chassis. Bumpers are required on front and rear of the vehicle. Bumpers shall not be visible or protrude outside the body.
 - 1.19 Numbers must be at least twelve (12) inches high and neatly attached to both sides of the car located on door. A number eighteen (18) inches high must be attached on the roof, reading from the left side. Chrome or gold numbers are not permitted for use. Mirror borders may be used but must not exceed a width of 2 inches. If using reflective type material in body of number it must be bordered with a plain contrasting color with a minimum width of one inch.
 - 1.19.1 LIMCA officials have the right to change racecar numbers to avoid duplication. All number designs are subject to LIMCA approval.
 - 1.19.2 LIMCA reserves the right to assign or restrict the display, and location on the car, of any decals, logos, identification, markings and advertising on racecars.
 - 1.19.3 The number 1 is reserved nationally for the Open Division national champion from the previous year and the Future Stars of Racing national champion from the previous year.
 - 1.19.4 Drivers are responsible for notifying LIMCA headquarters of their current car number changes.
 - 1.19.5 Numbers on a car must correspond with the car owner's registration card that is on file with LIMCA

2.0 EQUIPMENT AND GENERAL ACCESSORIES

- 2.1 The seat shall be constructed of aluminum by a reputable manufacturer of Automobile racing seats.
- 2.2 All seats must be securely mounted in the centerline of the vehicle. The seat centerline

- must match that of the vehicle. The seat cannot be offset.
- 2.3 The only materials allowed for the mounting of the seat shall be metal. NO modifications with there intent deemed as lightening shall be allowed. Seats and the mounting of them are subject to sanctioning body approval.

- 2.4 No driver shall compete in any event with head or arm extended outside of a car opening. The top of the driver's helmet must be at least one (1) inch below the top edge of the roll cage. This will be measured with the driver securely buckled in the car's seat.
- 2.5 Only a racing type helmet of current standards of SA 95 SNELL rating or later can be used.
- 2.6 All drivers must wear an approved driving suit, shoes and gloves. A single layer fire suit is the minimum allowed.
- 2.7 2.7.1 LIMCA highly recommends all drivers use arm restraints, neck collars, underwear, shoes, socks, neck collars and gloves made of fire resistant material.
2.7.2 Jr's must use arm restraints and neck collars. A head restraint system is recommended for 2004 and will be mandatory for 2005.
- 2.8 Two-way radios will be permitted for use in all Divisions.
- 2.9 LIMCA strongly recommends a on-board fire extinguishing system, being a minimum of the cold fire system type or equivalent.
- 2.10 All entrants must have in their pit area, at all times, as part of their equipment, a fully charged fire extinguisher.
- 2.11 All belts and harnesses must be of the 5-point type and meet the following minimum requirements:
 - 2.11.1 Have a minimum SFI rating of 16.1
 - 2.11.2 Be at least 3 inches wide for Super Starts and 2 inches wide for Junior Stars.
 - 2.11.3 Be dated by the manufacturer and no more than 3 years old.
 - 2.11.4 A quick-release seat lap belt is required.
 - 2.11.5 Both ends of the lap belt must be fastened to the roll cage with grade 5 bolts not less than 3/8" in diameter.
 - 2.11.6 Shoulder harness must come from behind the driver's seat. Inertia reels can not be used.

3.0 GENERAL ENGINE REQUIREMENTS

- 3.1 Only Honda GX390K1 engines will be used in Super Mini Cup competition. Serial numbers cannot be removed from engine block.
- 3.2 Engine must remain in stock location. Offsetting of engine is expressly prohibited.
- 3.3 No interchanging of parts from different engine models allowed. This includes the GX390 QAE also.
- 3.4 Engines cannot be altered from stock factory Honda specifications unless otherwise noted in this rulebook.
- 3.5 All parts must be factory Honda parts designed for the GX390K1 and may be checked against factory Honda parts unless otherwise noted in this rulebook. All officials' decisions are final.
- 3.6 Specifications for the Honda GX390K1 engines can be found on page 2-4 of the Honda Shop Manual, part number 61ZH900.

3.7 DETAILED ENGINE REQUIREMENTS

- 3.7.1 Internal and external governor system may be removed. Governor shaft hole may be plugged or vented.
- 3.7.2 Zero piston pop-up is allowed. Bore may be clearanced, and may not exceed the

maximum service limits. Bore may be oversized by 10 thousandths (.010), 20 thousandths (.020), or 30 thousandths (.030) with Honda replacement pistons only. Top piston ring may be oversized. Stock or aftermarket ring permitted. Top ring gap is a non-tech item. No gapless rings. No tech on rings except for thickness and width.

- 3.7.3 Crankshaft may be shortened by a maximum of 1.250 inches at the clutch end. Clutch bolt hole may be retapped. No lightening, polishing, or balancing of the crankshaft is allowed. Crankshaft may be ground .010 and the use of a Honda .010 replacement rod is permissible. Machining of a stock rod to allow for a .010 insert is also permissible.
- 3.7.4 Piston and connecting rod must remain stock standard size, no grinding, polishing or sizing modifications allowed, although any size oil lubrication hole is allowed.
- 3.7.5 Rotating the piston or rod is expressly forbidden.
- 3.7.6 Any replacement rod bolt is allowed, as long as the rod is not altered or modified, except for oil lubrication hole as specified above.

4.0 CYLINDER HEAD

- 4.1 Cylinder head must remain stock "as cast".
- 4.2 Cylinder head may be machined to a minimum thickness of 3.730 inches
- 4.3 No porting, polishing or sizing of any part of the cylinder head is allowed.
- 4.4 Only stock valve grinding angles allowed. 30° first & 45° second
- 4.5 All cylinder head dimensions will be taken from stock Honda parts.
- 4.6 Worn valve guides may be replaced with stock Honda valve guides or with a bronze guide-liner.

5.0 CAMSHAFT

NOTE: Super Mini Cup engines may compete using the profiled camshaft as described below. This is the only camshaft (other than stock) allowed for 2004. ALL ENGINES using a non-stock cam must conform to the 2004 profile specifications. Any cam that does not fall within the specifications below will be considered illegal. Cams are available from Mountain Machine Service.

- 5.1 Camshaft timing cannot be changed from Honda factory specifications. (See Honda Manual)
- 5.2 A reground Honda camshaft may be used, as long as it remains within the following profile and must be checked at the lifter against the camshaft. Specifications next page.

INTAKE

LIFT	DEGREES	POSITION
.050	3BTDC----3	ATDC
.100	14 -----20	ATDC
.150	30 -----36	ATDC
.200	50 -----56	ATDC
.250	81 ----- 87	ATDC
.265	MAX	
.250	48 -----42	BBDC
.200	19 -----13	BBDC
.150	1 -----7	ABDC

.100	17 -----23	ABDC
.050	34 -----40	ABDC

EXHAUST

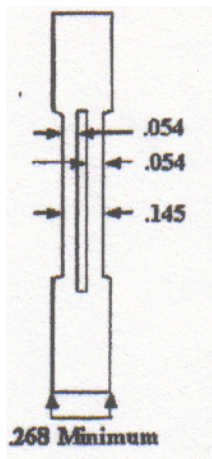
LIFT	DEGREES	POSITION
.050	37 -----31	BBDC
.100	19 -----13	BBDC
.150	2BBDC ----4	ABDC
.200	21 -----27	ABDC
.245	MAX	
.200	68 -----62	BTDC
.150	46 -----40	BTDC
.100	29 -----23	BTDC
.050	12 -----6	BTDC

6.0 VALVE TRAIN

- 6.1 All valves, lifters, push rods and rocker arms must remain stock Honda GX390K1 engines. Aftermarket valve springs okay if they meet the dimensions of the stock spring. One stock Honda shim allowed under both intake and exhaust springs. All dimensions will be taken from known stock Honda GX390K1 engine parts. All other specifications will be from Honda GX390K1 shop manual.
- 6.2 A small groove may be cut in the valve stem for a safety (rubber) "O" ring to be installed. Groove must be no more than: 0.020" deep - 0.100" wide - 0.750" from end of valve stem.
- 6.3 Slot in rocker arm may be elongated to prevent binding.

7.0 HONDA CARBURETOR

- 7.1 Choke may be removed from carburetor. Shaft holes must be plugged.
- 7.2 Mountain Machine Service 925B Honda carburetor modifications legal.
- 7.3 Any stock Honda jet may be used. Jet may be drilled.
- 7.4 When using the Honda carburetor needle and seat must remain stock Honda GX390K1.
- 7.5 The following modifications are allowed to the stock carburetor:



- 7.5.1 Jet size is open.
- 7.5.2 No modification of shaft or butterfly allowed. Must be stock shaft.
- 7.5.3 No grinding or polishing.
- 7.5.4 A pick up hole can be drilled parallel to the existing hole of the same size.
- 7.5.5 Hole can be drilled in bottom of carb nut for remote adjustment.
- 7.5.6 May remove tab on low idle mix pilot screw.
- 7.5.7 Shaft size minimum .268.
- 7.5.8 Shaft size between screws minimum of .145.
- 7.5.9 Throttle plate minimum .036.
- 7.5.10 No-go bore gauge .930.
- 7.5.11 Gasket must remain stock Honda GX390K1.
- 7.5.12 Carburetor insulator for Honda carburetor must be drilled for pulse pump. Fuel pump must be pulsed from insulator only. Only one hole is allowed. No air

leaks.

7.5.13 No grinding, polishing or sizing of insulators or adapters is allowed.

7.6 The use of restrictor plates for Junior Stars is mandatory. The plate must be installed firmly in place, pushed all the way down on the carburetor studs. One gasket shall be used on either side of the restrictor plate. All air passing through the intake port of the head shall pass through the air filter. The restrictor plate must be the approved plate offered by the LIMCA with out modification.

7.61 Restrictor plate dimensions:

Junior Stars - .700" +/- .001" diameter hole. (Age 10 to 14)

8.0 CARBURETOR GASOLINE FILTER

8.1 Gasoline filters may be used. The location and size of the filter must be acceptable to official(s).

9.0 AIR FILTER AND ADAPTER

9.1 All engines are required to have an air filter and carburetor adapter.

9.2 Air filter cannot act as a ram air device.

10.0 ENGINE/CAR ELECTRICAL SYSTEM ALTERNATOR

10.1 Oil alert system may be removed.

10.2 Charging system may be removed.

10.3 Charging magnets may be removed.

11.0 FLYWHEEL

11.1 Flywheel may be balanced. Minimum flywheel weight must be 11 Lbs. 10 oz. Weight should be removed from the outer edge of the flywheel. Any flywheel that shows signs of excessive machining on the inside area will be deemed illegal. The tech official will have sole discretion and authority on this matter.

11.2 No other alterations to the flywheel allowed.

12.0 SPARK PLUG

12.1 Any make or brand of spark plug may be used.

12.2 Aftermarket spark plug connectors may be used to replace stock Honda connectors.

13.0 IGNITION SYSTEM

13.1 Altering the ignition timing from stock Honda GX390K1 specifications is not allowed.
24 degrees + or - 1

13.2 No alterations to the starter coil or other electrical parts are allowed.

13.3 Spark intensifiers are prohibited.

14.0 STARTER

14.1 The electric self starter must be in working order. All cars must be capable of starting under their own power.

14.2 The starter cup is an extension of the recoil starter assembly and can be removed if desired. It also presents a hazard when adjusting the carburetor. The cup may be removed

and replaced with the following Honda fan flange (Honda part # 19512-ZE2-000) ONLY. The screen must be replaced and firmly attached to the motor in the original location and made of mesh. Honda part # 19620-ZE3-810 may be used. It cannot be made of solid materials or be partially covered. A hole may be cut in the center of the mesh to allow access to the crankshaft nut.

15.0 BATTERY

15.1 A type 10L battery (or similar), in good working order, shall be mounted securely to the vehicle. Maximum dimensions of the battery shall be: L 6.5 W 5.0 H 8.0. In the event the battery is located in the driver's compartment, it shall be mounted within a non-conductive marine type container or equivalent. All batteries shall be attached securely to the frame or chassis structure independent of the marine type container. Battery location is unrestricted. Battery, mounting, wiring and/or charging post are subject to approval by the sanctioning body.

16.0 ELECTRICAL SWITCH LOCATIONS

16.1 All electrical switches must be located on the left side of the dash panel.
16.2 A switch must be wired so as to ground the ignition.

17.0 DATA COLLECTION DEVICES

17.1 If used, data collection devices shall fall within these parameters. Device shall collect and/or remember only these approved inputs:
17.1.1 Head Temperature
17.1.2 Exhaust Gas Temperature
17.1.3 Exhaust Air/Fuel Mixture
17.1.4 Revolutions Per Minute
17.1.5 Lap Time
17.2 All devices shall be securely mounted and shall not obstruct the driver in any way.

18.0 ENGINE COOLING SYSTEM

18.1 Air cooling components cannot be altered from Honda GX390K1.
18.2 The stock shroud covering the head can be replaced with an aluminum shroud with maximum dimensions of 5" by 10". The replacement of this shroud is not a performance enhancement. The shroud must not extend further forward than the leading edge of the fins on the head. The intent is to equalize cooling over the surface of the aluminum head thus adding durability.
18.3 The oil capacity shall remain unaltered from stock specifications.

19.0 ENGINE EXHAUST SYSTEM

19.1 Exhaust pipe must be similar in design and dimension to original manufacturers. Pipe

must have no interior restrictions and be a minimum of 28 inches end to end. Pipes that had been shortened in the past may have additional tubing welded on to meet the minimum length requirement.

- 19.2 Mufflers are not required.
- 19.3 Additional bracing and brackets to reinforce and support pipe are legal.
- 19.4 Exhaust pipe wrap only is legal. No coatings.

20.0 FUEL / OIL

- 20.1 Unleaded gasoline available at a corner service station only. No racing fuel, aviation fuel or additives of any type are allowed. The LIMCA reserves the right to use a pump around system. Any competitor who does not allow fuel to be pumped will be disqualified.
 - 20.1.1 Fuel Specifications
 - 20.1.1.1 Specific gravity equals 0.700 to 0.780 at 60 Degrees Fahrenheit
 - 20.1.1.2 Trace Lead: Alkyl Compounds 0.000 - 0.005% weight
 - 20.1.1.3 Aromatics 0-50%
 - 20.1.1.4 Oxygenated compounds: 0.000 - 0.005% weight
 - 20.1.2 Nitrogen-bearing additives are prohibited in the fuel or in the engine oiling systems.
- 20.2 Oil Specifications
 - 20.2.1 The use of combustible oils and/or additives is strictly forbidden. The sanctioning body reserves the right to require competitors adhere to these specifications by the use of spec oils and any/or other test deemed appropriate. Oils and/or additives found to be an irritant to other drivers and or people will be banned.
- 20.3 The director at his/her discretion may disqualify any competitor based upon any traces of these additives whether detected by a device or sense of smell.

21.0 FUEL CELL

- 21.1 The use of a racing fuel cell, capacity 1.5 gallons or less, as supplied from factory is mandatory.
- 21.2 The LIMCA approved fuel cell location shall remain unaltered from stock. All fuel cells shall be securely mounted to the frame.
- 21.3 The fuel cell must be mounted inside a metal enclosure. The filling neck of the fuel cell shall not be in the driver's compartment.
- 21.4 Filler caps, fuel pickup openings and lines, breather vents, and fuel lines shall be so designed that if the car is partially or totally inverted, fuel shall not escape. Fuel cell breathers shall vent outside the vehicle and away from the exhaust system
- 21.5 Fuel lines shall not enter or run through the driver's compartment.

22.0 FUEL LINES AND FUEL PUMP

- 22.1 No Electric fuel pumps may be used.
- 22.2 All fuel lines must be secured by clamps or safety wire.

23.0 CLUTCH

- 23.1 Only a dry centrifugal clutch is allowed. No transmissions, belt driven torque converters,

oil bath clutches or axle clutches. Clutch and clutch components must meet the following requirements:

23.1.1 RATECH clutch # 1300S006 (MMI/TRP Part # 1000210).

23.1.2 PREMIER Titan clutch (MMI/TRP part W 1000200). Only shoes, springs and drums manufactured by PREMIER for clutch #1000200 are acceptable.

23.1.3 Horstman Redhawk clutch legal.

24.0 CHAIN /GEAR SPROCKETS

24.1 Only # 35 chain allowed. Only sprocket gears 53-80 tooth. Chain guards permitted and must be acceptable to LIMCA official(s). No automatic or manual chain oiling systems permitted.

25.0 BRAKE COMPONENTS

25.1 Only hydraulic disc brakes with steel rotors are permitted.

25.2 All cars must have brakes on rear wheels. Rotor may not be altered from stock. No alternate materials may be used.

25.3 Front brakes are required and brake bias may be adjusted from driver compartment.

25.4 All brake cooling component parts and installation must be acceptable to the official(s).

26.0 REAR AXLE

26.1 The rear axle must meet the following requirements:

26.1.1 Axle must not protrude outside of wheels.

26.1.2 Only 1.25" steel or chrome moly hollow axles permitted. Maximum axle length is 40". No alternate materials allowed.

26.1.3 Both rear hubs must be keyed securely to axle. No floating hubs allowed.

26.1.4 Snap rings must be in place and safety wired.

26.1.5 Axle key stock must be secured in an additional fashion (tie wrap, taped, ect.) on all cars.

26.1.6 Self oiling carrier bearings are permitted.

27.0 WHEELS

27.1 All wheels must meet the following requirements:

27.1.1 Wheels must be 8" in diameter maximum, with a 8" rim width maximum and constructed of aluminum or steel.

27.1.2 Wheels may be painted or polished.

27.1.3 LIMCA recommends 4 bolt hubs and wheels for maximum safety.

28.0 TIRES

28.1 LIMCA requires American Racer M32 compound, 15.0 X 7.00 X 8 slicks. All tires must be approved by the official(s).

Hoosier tires may be used. Must be 4 of same tires no mixing of brands.

28.2 LIMCA official(s) may conduct durometer reading to verify compound.

28.3 No liquid or other tire softeners are allowed.

28.4 Nitrogen is allowed for use in tires.

29.0 DIMENSIONS

29.1 Tire Track Width

29.1.1 All cars must maintain a tread width between 43 and 45 1/2 inches measured at the widest point (sidewall) of the tire set at zero toe-in. Aluminum spacers are permitted to utilize maximum front tread width.

29.1.2 All tires and wheels must be enclosed by the body.

29.2 Wheel Base

29.2.1 The maximum allowable wheelbase for either side of the car is 61 inches. The minimum allowable wheelbase for either side of the car is 59 inches. When measuring, both sides must measure within 1/2 inch of each other. Measurement is to be taken from the center of axle to center of hub specifically at the tire sidewall, not from points extending out from those locations.

30.0 CHASSIS

30.1 All cars running in LIMCA Sanctioned Events must be produced by one of the following manufacturers; NC Chassis Company, MMI, Braits Precision or Ultimate Motorsports Avenger.

30.2 All chassis must be painted or powder coated.

30.3 Damage to the frame may be repaired however, any repairs must be visually inspected by an LIMCA official. Any frame that shows poor workmanship from damage repair will not be approved to race until necessary corrections have been made.

30.4 No filled or solid tubing allowed.

31.0 SUSPENSION

31.1 Any coil over type shock and spring combination may be used. Springs and shocks cannot be altered and must meet original factory specifications. Shocks/springs must be mounted in the location designed by the car manufacturer.

31.2 Front shock spacing may not exceed one (1) inch width.

31.3 All suspension and steering components are tunable without any component modifications.

32.0 SPINDLES

32.1 All spindles must be manufactured by an approved manufacture.

32.2 King pin angles, spindle diameters, spindle arm length and angle, and the location of the outer ball joint mounting hole must remain as manufactured.

32.3 Alternate heavy duty left spindle, part # 1006273 and heavy duty right spindle, part # 1006274 and hub, part # 1006653 may be used.

32.4 All cars may run ARC hubs. Avengers delivered with 3/4" spindles may continue to use them.

33.0 STEERING

33.1 All cars must be equipped with a steering column constructed of 0.750 x .065 steel tubing or solid steel tubing.

33.2 A quick release coupling acceptable to the official(s) on the steering wheel is mandatory.

33.3 Only rack and pinion steering is permitted. (Rigid cars may use old style steering)

33.4 All steering linkage must be properly secured. A single u-joint may be installed on the steering shaft assembly.

34.0 BODY HEIGHT REQUIREMENTS AND GROUND CLEARANCE REQUIREMENTS

- 34.1 All cars must maintain a minimum roof height of no less than 30.5 inches. Not including roof rails. Car height off the ground and body height, including rake or degrees of body angle, shall be determined by measuring overall height of car at rear of the hatch on the roof center line.
- 34.2 Frame rail and body clearance will be at least 1 1/2 inches. Front air dam clearance will be 1 1/2 inches. No part of the engine or suspension can be lower than frame clearance. Ride height of the car will be checked with the driver in car as raced.
- 34.3 No mechanical or electrical devices for shifting weight or adjusting weight or ride height will be permitted.
- 34.4 Body may not be off set on chassis.
- 34.5 When measuring ride height, obvious body or bumper damage incurred as a result of an on-track incident in the race for which tech is being performed should be taken into consideration. The tech official will determine whether body or bumper damage incurred during that race has caused the vehicle to fail ride height inspection.
- 34.6 If a car is submitted for tech with a completely flat tire (0 Lbs pressure) which was caused by racing or an on track incident, and the tech official determines this to be the case, the competitor will be allowed to add a maximum of 18 Lbs of air to the tire or replace the wheel and tire with another (18 Lbs pressure max.) for the purposes of tech.

35.0 WEIGHT

- 35.1 At post race tech all cars must weigh as follows with driver ready to race. Maximum left side weight is 55% of total race weight. All weights will be calculated on scales approved by LIMCA. It is the responsibility of the race car driver to see that their car meets the specified minimum weight requirements.

Division	Weight
Super Stars	700
Junior Stars	650
Rigid Cars	650

- 35.2 If weight is needed to meet minimum requirements, LIMCA recommends the use of square steel tubing weight containment bars. LIMCA suggests poured lead - no buckshot or BB's No open weight. No exceptions.
- 35.3 Weight must be attached to frame, or placed inside frame rails, with grade 5 hardware, and cannot slide from front to back or side to side.
- 35.3 All weight must be located inside driver compartment or approved weight containment box.

36.0 POST RACE TECH AND SCALES

- 36.1 A minimum of the top (3) three in each qualifying event and the top (6) six in their feature race must go directly to the scales or tech area immediately following the heat or feature.
- 36.2 The driver **must** remain in the car until the official gives permission to get out.

36.3 Trunk and hood must remain closed until such time as a tech official opens one or the other. The driver and car must remain in tech until given permission to leave by the official in charge. Drivers failing to follow this procedure are subject to disqualification. Any car that refuses tech will be disqualified and points earned for that race will be removed.

General Tech Procedures :

1. Check for approved air filter
2. Check for air filter adapter
3. Air Leak check (WD-40 or starting fluid around carb and insulator with engine running and listen for increase or decrease in idle)
4. Check carb bore with no-go gauge
Stock Honda: .830
Modified Honda .930
5. Check fuel (take sample from line at carb)
6. Halogen test oil

Carburetor and Intake system:

1. Air leak check as above # 3
2. Fuel tests as above # 6
3. Check carb bore for polishing or material removal
4. Check throttle shaft and plate measurements
5. Check for stock gaskets
6. Check carb insulator block for material removal (no polishing, grinding or sizing, check for cracks)
7. If choke removed hole must be plugged
8. Check engine seal
9. Test air filter by rolling in pan of water to see if water infiltrates uniformly around entire surface. Look for blockage.

Cylinder head and related parts

1. Check for stock rocker arms
2. Check for stock retainers
3. Check valve springs:
Wire dia. .110 min. - .118 max.
Spring free length 1.590 max
Outside spring dia. 1.020 max
Inside spring dia. .785 min
5. Check for only 1 stock spring seat under each spring (max thickness .025)
6. Check for stock valves (only 45 degree angle)
7. Check compression chamber for weld
8. Check valve ports for material removal, valve seat for match up with ports, valve seat one 45 degree and one 30 degree angle only, extra holes in intake port.
9. Check cylinder head for angle cut
10. Check cylinder head thickness (min 3.730)
11. Check head gasket; measure at several places, and inside compression ring (min thickness

- .043), metal or graphite stock gasket O.K.
12. Check push rod for stock and length; 6.535 + - .005.

Ignition system:

1. Flywheel key must be in place cannot be offset
2. Coil mounting holes cannot be slotted to enable adjustment of timing
3. Check coil mounts for bending or plugged and rethreading
4. Check timing.

Flywheel:

1. Measure flywheel inner steel ring with hook gauge .335 +- .005
2. Check flywheel for lightening
3. O.K. to remove magnets
4. O.K. to balance flywheel with no intent to lighten
5. Min. flywheel weight is 11 lbs 10 oz.

Block:

1. Check for piston pop-out (zero allowed)
2. Top of piston should appear to be a stock GX390 piston
Dish in top of piston .085 +- .005
3. Stroke: 2.52-2.54
4. Bore: 3.465-3.490 (may bore up to .30 over with clearance)
5. Profile cam must meet 2002 specifications
6. Remove side cover and check to see if timing dots align
O.K. to remove oil alert system and governor
7. Check wrist pin for stock Honda GX390 measurements:
Inside- .552
Length- 2.438
8. Check rod for stock Honda GX390:
No grinding, polishing, or sizing
Enlarging of oil hole and slotting allowed
Rod inserts O.K.
Approx. length 3.300
9. Check piston for stock Honda GX390:
Piston crown to bottom of skirt: 2.620
Dish in top of piston: .085 +- .005
Compression height (top of wrist pin to top of piston): .710
Check for lightening
No coatings
No tech on rings except for thickness and width
10. Check crankshaft for stock Honda GX 390:
No grinding or polishing
No balancing
Crank journal may be reground to -.010
Journal size: 1.416 std.
Journal size for -.010: 1.406
Weld and regrind for rod inserts O.K.
11. Check camshaft for stock Honda GX390:
Easy spin in working order

No lightening
May be welded and reground
12. Check balancer for stock Honda GX390
NO lightening or balancing

37.0 CONDUCT AND BEHAVIOR

37.1 LIMCA is a family-oriented organization. LIMCA racing is designed to be fun and enjoyable for all. Any conduct by any member or crewman deemed to be harmful to the association or the sport will not be tolerated and the offender will be subject to suspension or possibly expulsion from LIMCA.

37.2 The driver is responsible for the actions and words of his owner and pit crew in all respects. The driver shall be the sole spokesperson for his / her car owner and pit crew in any and all matters, and must talk with the chief LIMCA or track official in charge regarding their conduct and behavior.

37.3 There will be **NO** harassment of officials, safety crews, ambulance crews, or spectators. All LIMCA members and their crew are expected to conduct themselves as professionals and reflect it in all actions, words and appearance.

37.4 No crew members are permitted on the race track at any time except if requested to be there by an official.

37.5 Anyone causing a disturbance at the starter's stand will be suspended. No communication between a team member and a track official is allowed during an event.

37.6 All personal property brought to the speedway by a team must be removed with them when they leave. Examples: tires, race car parts, used oil, etc.

38.0 Protest Guidelines

38.1 Protestor must have finished on lead lap of feature or heat race.

38.2 Protest has to be written and turned in to the LIMCA race director no later than fifteen minutes after completion of feature or heat. Must include what item or component is under protest.

38.3 Fee is \$150.00 to be included with written protest.

38.4 Every component from bumper to bumper is protestable.

38.5 Twenty-five dollars of the \$150 fee will go to ENGINE TECH official. If engine item or component under protest is legal, the fee minus \$25 is paid to car protestee. If the item or component is illegal the fee minus \$25 is returned to protestor. Sealed engines are protestable. Sealed engines may not be honored for tech purposes in all regions. Contact local directors before participating.

38.6 Engine tear down will be limited to the following people only:

One authorized mechanic
One member from car in question
One local LIMCA director/representative or track official.

38.7 No protest on non-performance items

38.8 Protest will be limited to 1 (one) item ie

- 1) Engine & Clutch
- 2) Suspension
- 3) Track , Wheel base & Ride hight
- 4) Body
- 5) Tires
- 6) Other Must specify on protest