

THUNDER ROADSTER RULES

Safety Rules

No express or implied warranty of safety shall result from publication of, or compliance with these rules and regulations. They are intended as a guide for the conduct of the sport and are in no way a guarantee against injury or death to participants, spectators or others. Whenever there is a conflict between a safety provision provided herein and any other rule, the safety provision shall take precedence.

1. **AGE REQUIREMENTS:** The minimum age for competition in the Thunder Roadster division will be sixteen (16). Positive proof of age will be required prior to issuance of a Thunder Roadster License.

2. **ARM RESTRAINTS:** Arm restraints are required for all drivers in Thunder Roadster competition.

3. **FIRE EXTINGUISHERS:** An on-board fire extinguisher is highly recommended for your safety. All fire systems must be operational.

4. **FIRE SUITS:** All drivers must wear an INEX-approved fire retardant suit of Nomex or equivalent material any time they are on the track. A double layer or more is highly recommended. Suit must be labeled flame retardant (made of flame retardant materials or have S.F.I. patch). Damaged suits may be disallowed by the inspector.

5. **FIRE RETARDANT GLOVES:** Fire retardant gloves are mandatory. Gloves must have "SFI" tag or wording included on the care label stating that they are flame retardant.

6. **HELMET:** INEX requires that all drivers must wear a full face racing type helmet of current standards of '95 Snell SA rating (2000 in 2009) or later any time he/she is on the track for slow laps, practice or racing conditions. Snell "M" rated helmets will not be allowed. Drivers without a helmet meeting the above minimum Snell standards will not be permitted on the racetrack in a Thunder Roadster. A helmet is designed to absorb energy once. If a significant impact has occurred to the helmet, it is highly recommended that it be sent back to the manufacturer for evaluation. Helmets are subject to inspection at each event by the technical inspector or other official. A full-face helmet is mandatory.

7. **RACING SHOES:** Drivers must wear automotive racing shoes.

8. **SAFETY HARNESS:** All cars must have an INEX-approved type of five or six point racing harness that is equipped with a quick release buckle. Be sure to regularly

check your safety belts for damage such as fraying, tearing, etc. If this should occur, the safety belts should be replaced immediately. The INEX representative at the track may require that the belts be replaced if they are damaged. INEX endorses (not requires) the belt manufacturer's recommendation that the belts be changed two (2) years after the date stamped on the SFI tag regardless of the number of times the car has been raced. The safety belts are similar to a helmet, in that they are designed for protection in only one major impact. If you have had a significant incident, the manufacturer strongly recommends immediate replacement of the belts. Also, make absolutely sure that your safety harness is totally secured and you have pulled the straps as tight as possible anytime you drive the car.

9. **SEATS:** Only INEX-approved factory-manufactured metal seats may be used. No homemade seats will be permitted. Lightening the seat by anyone else other than the factory is not permitted. Lumbar supports are highly recommended.

Mounting of the Seat in a Thunder Roadster Car: The seat may be moved within the driver's compartment without moving or changing existing bars in the frame or roll cage. The top of the drivers helmet, when seated in the car, must be a minimum of 2" below the top of the roll cage. The seat may be mounted directly to the floorpan. When mounting the seat forward, use a flat piece of steel or aluminum behind the seat (don't just use bolts in tubing). The use of wood as supports or mounting brackets is not permitted. Hardware used to mount seat must be a minimum of grade 5 bolts. The presiding tech inspector shall have final approval of the mounting of the seat.

10. HEAD AND NECK RESTRAINT SYSTEMS ARE STRONGLY SUGGESTED

11. OTHER SUGGESTED SAFETY EQUIPMENT:

These items are *not required*, but they are all *highly recommended*. (Some of these items may be required by an individual track or promoter).

- Flame retardant underwear and socks.
- Head sock (balaclava)
- Steering wheel pad and roll cage padding.

Any car may be checked for engine, chassis, oil, fuel, tires,

THUNDER ROADSTER SPECIFICATION RULES

wheels, rear ends or sound legality at any time by an INEX official or representative. *Upon entering a Thunder Roadster for INEX-sanctioned competition, the driver (and possibly the owner) is responsible for the legality of their car and will suffer all penalties resulting with the Thunder Roadster violating these rules.* Refusal to submit a car, engine or parts for inspection or measurement upon the request of an INEX tech inspector will result in an immediate disqualification and may lead to **a minimum two week suspension for car owner, car and driver.**

No equipment or race car will be considered as having been approved by reason of having passed through inspection *“unobserved.”* **Regardless of a Thunder Roadster passing prior inspections, compliance with all rules must be made at each post-race inspection. No expressed or implied warrant of safety shall result from the technical inspection or approval.**

Enforcement of Specification Rules: All INEX-approved

If this rulebook does not specifically say that you can change/modify/add something, then you must consider that the change/modification/addition is illegal. Any questions about the legality of a change/modification/addition not covered in this rulebook, must be answered by INEX in writing and presented to the tech inspector upon request. If you have a request for a change/modification/addition, please contact INEX before making the change/modification/addition.

weighing, measuring and testing devices used by the INEX tech officials are the standards that will determine compliance with the rules and regulations. A competitor's equipment, gauge or instrument, unless approved by the INEX inspector, will have no bearing on the enforcement of these rules. Cars must start in tech area to perform inspections that require the car to start.

1. **AERODYNAMICS:** Spoilers, air dams or other aerodynamic devices are not permitted.

2. **AIR FILTERS:** Only INEX-approved air filters and Outerwears Pre-Filters coverings are permitted. Air filters may not have an element more than 3" in height (bottom of filter element to the top). Velocity/ram stacks are not permitted. No air filters that direct airflow to the carburetors or increase airflow are permitted (including those with molded ram stacks). Air filters constructed with fiberglass parts are not permitted.

3. **BALL JOINTS:** The upper and lower ball joints must remain stock, within the stock dimensions, steel thickness, location and configurations as currently delivered by 600 Racing, Inc. and may not be reinforced in any way. One or two (1/4"

minimum 7/16" maximum) jam nuts are permitted on the upper and lower ball joints. Each ball joint must use at least one jam nut. The jam nuts may not be welded to the control arms.

4. **BALLAST:** All lead must be clearly visible with white or neon paint/tape and marked with the car number. Only Lead may be used for ballast. Ballast may not be added by any other method, including steel shot or any other material in the bumpers, nerf bars or any other component.

Mounting Ballast - Ballast may be installed inside or outside the frame rails. When mounted inside the frame rail, a bolt, minimum size 3/8" in diameter, must be at each end of any 1 1/2" x 2 1/2" frame rail containing lead. If mounted outside the 1 1/2" x 2 1/2" frame rail, the lead must be secured with two 3/8" bolts through the lead and the frame rail. The lead may be placed anywhere front to back inside or outside on the 1 1/2" x 2 1/2" frame rail but must be secured in place. Some suggestions for holding the lead inside the frame rail are lengths of wood, plastic tubing, conduit etc. The lead ballast must not be able to shift front to rear. Ballast may not extend beyond 2 1/2" from the side of the frame.

5. **BATTERY:** Only a lead acid, or gel cell battery of the same dimensions as stock (7 1/8 x 8 x 6 1/2) and 25 lb. min. weight may be used. A top post or side post battery may be used. Motorcycle batteries may not be used. The battery must remain in its stock location and securely mounted. The original stock battery bracket may not be altered in any way. A battery box, terminal coverings or rubber padding around rear end is also highly recommended. A battery shut-off switch is optional.

6. **BOLTS AND FASTENERS:** Only steel magnetic bolts equivalent to stock or upgraded steel fasteners and bolts may be used on the Thunder Roadster. Fasteners may be drilled for safety wire but intentional weight saving modifications are not permitted. Aluminum and titanium bolts are illegal.

7. **BRAKES:** Any of the brake parts that are attached to the rear end or the spindles must remain stock, within the stock dimensions, steel thickness, location and configurations as currently delivered by 600 Racing, Inc. (Brake lines may not be plugged or pinched off). The right or left side brake pedal may be removed. Aftermarket brake pads or shoes are permitted. All four brakes must work with the exception of dirt track racing, when the right front, only, can be disconnected. Cooling ducts for the brakes may be used. Four (4) maximum holes, in front of body, behind the front bumper, for ducts, each may be no larger than 30 square inches.

Brake Rotors - Only steel rotors (not drilled or reduced in diameter) are permitted on the front or rear. The minimum permitted thickness of the front brake rotor is 8mm (5/16) wide, the rear rotor minimum thickness is 1/4".

Brake & Clutch Lines - Rubber, hard-line or steel-braided brake and clutch lines are permitted.

Brake Master Cylinder - The brake master cylinder must remain

stock, within the stock dimensions, location and configurations as currently delivered by 600 Racing, Inc. The brake master cylinder must remain on the engine side of the firewall. No aftermarket brake master cylinders are permitted.

Brake Proportion Valves - Any number of aftermarket brake proportion valves for the brakes are permitted. As of June 1, 2008, only one "twist or lever" style valve, will be allowed. Residual valves in line or otherwise will not be allowed

8. **BUMP STEER:** Adjustments to bump steer settings will only be permitted by placing spacers between the steering rack and the heim ends of the tie rods or between the front spindle pickup points and the heim ends of the tie rods. No other modifications to adjust bump steer such as changing the height of the steering rack or modifying the spindles are permitted

9. **BUMPERS:** The front bumper must remain within the stock dimensions, steel thickness, location and configurations as currently delivered by 600 Racing, Inc. and may not be reinforced in any way. Bumper tabs must be bolted to the frame horn with a minimum of one bolt.

Attachment of the Bumper - Should the tab become bent during a race, it must be fixed before the next time the car goes on the track to compete or practice. **Tie-wraps, safety wire, duct tape, etc., are not permitted to secure the front or rear bumpers or bumper tabs at anytime.**

Bumper Tabs - The bumper tabs must be stock as delivered by 600 Racing, Inc. and may not exceed 1/8" (.125") in thickness. Tabs stamped "INEX" as delivered by 600 Racing Inc. will be .140" thick. *Tabs with excessive weld may be considered illegal.*

Mandatory Race Procedure Concerning Bumpers

If a bumper comes completely off the car or has any part of it touching the ground, or is in a dangerous position, that car may be black flagged by the track officials and removed from the race. The INEX technical inspector does not have the authority to disqualify a driver after the race for a violation of this race procedure.

Repairing a Bumper During a Race: Bumpers must be bolted on. Tie-wraps, safety wire, duct tape, etc., are not permitted to repair the front or rear bumpers at anytime. ***An INEX technical inspector will have the authority to disqualify a driver after a race if the repaired bumper violates this rule.***

10. **CARBURETORS:** The carburetors and all components of the carburetor must remain stock as currently delivered by 600 Racing, Inc. Only carburetor jets, needles, slide springs and butterfly screws (butterfly screws may only be

replaced with 3m. X 6m. allen head screws or stock screws. These screws may not be altered in any way other than "stamping" the end to secure the screw) may be replaced and all stock adjusters may be used. No other modifications to the carburetors are permitted. Modifications or components to increase or restrict airflow or fuel flow (such as velocity stacks, heat deflector shields, internal modifications not listed above, etc.) are not permitted.

11. **CAR NUMBERS:** The Thunder Roadsters are very hard to score, please make sure you car numbers can be seen. The car must have numbers that are a minimum height of 14" on both sides of the tail section, and in middle of the nosepiece. A mandatory 12" X 10" number board, white with black numbers must be attached to the roll cage, rear of the driver in plain view of the scorers. It is also recommended to have your number on the rear of the engine hood facing slightly right. If two drivers show up at a track with the same number, the driver with the lowest INEX membership number has priority (unless otherwise directed by the Race Director).

12. **CHROME PLATING/POLISHING:** Parts such as bumpers, nerf bars, suspension components and valve/cam cover may be chrome plated or polished.

13. **CLUTCH MASTER CYLINDER:** The clutch master cylinder must remain stock, within the stock dimensions, location and configurations as currently delivered by 600 Racing, Inc. The clutch master cylinder and reservoir must remain on the engine side of the firewall. No aftermarket clutch master cylinders are permitted. The clutch pedal may be shortened for driver comfort.

14. **CONTINGENCY SPONSOR DECALS:** Contingency sponsor decals are optional, however contingency decals are mandatory and /or use of the product to be eligible for posted awards sponsored by the contingency sponsor.

15. **COOLING, ENGINE:** An extra fan, internal duct work, remote oil filter, header wrap, and/or oil coolers are permitted inside the engine compartment. These components must be as delivered by 600 Racing. Directing air to the carburetors or air filters is not allowed.

16. **DRIVE SHAFT:** The drive shaft, flanges, and u-joints must remain within the stock dimensions, steel thickness, location and configurations as currently delivered by 600 Racing, Inc. Lightening the drive shaft in any way is illegal. The drive shaft must be painted white or light gray. **DRIVE SHAFT retainers** - An INEX-approved drive shaft retainer strap is permitted. Retainers for the drive shaft must be approved in writing by INEX.

17. **FIBERGLASS COMPONENTS:** All fiberglass components must remain within the stock dimensions,

thickness, location and configurations as currently delivered by 600 Racing, Inc. and may not be reinforced or intentionally lightened in any way. Original holes in body cannot be covered. The lower part of the nosepiece front opening can be removed not to exceed the stock opening (14" – Thunder Roadster & 14 ½" – GP Roadster). Material may not be removed from the rear bodywork. Holes for airflow are only permitted in the front of the nose (see rule #7) and the front & back of the side pods. The front and back of both side pods may be cut out (there must be 1" of edge left to support the sidepod). No material can be removed from the top of the front opening.

Mounting of Components - All fiberglass body components must be firmly attached to every Thunder Roadster competing in any race. It is recommended that all dzuis fasteners fit tight and are taped over to prevent loosening. Any Thunder Roadster may be black flagged or denied entry to start a race if any of the aforementioned items are not attached, unless prior approval is given by the INEX technical inspector. Removal of undamaged fiberglass components (hood, decklid, ect.) during an event is not allowed.

18. **FIREWALL:** A metal firewall is mandatory. The firewall must remain sealed as delivered from 600 Racing Inc. Using a "thicker than stock" metal firewall separating the drivers compartment and the engine compartment is OK.

19. **FRAME:** Absolutely no modifications of the frame (including the roll cage) will be permitted unless otherwise noted in this rulebook. Any other requested chassis modifications or unusual repairs are only permitted with a letter of approval from INEX.

Registration of a Thunder Roadster - For more information about the titling, transferring ownership and registration of a Legends Car, please contact the titling department of 600 Racing, Inc. at (704) 455-3896.

Serial number plates - All cars & frames running as Thunder Roadsters must be produced by 600 Racing Inc. All cars must carry the serial number assigned to that frame and the serial number can be found on the number plate on the drivers compartment interior. This plate shall not be tampered with in any way. For any reason, the car owner must also be able to produce the title for the car within 48 hours after a request by an INEX technical official or that car will be ineligible for any competition.

Metal Fatigue - It is highly recommended to have the frame checked periodically by an expert for metal fatigue. Cracked or broken frames are strictly prohibited from any INEX-sanctioned events.

Frame Replacement - If the chassis should become severely damaged, replacement frames must be purchased through 600 Racing, Inc. or its authorized dealer network.

Frame Repairing - Only front clips (forward of the A-arm mounts) and rear clips (behind the main rail of the sub frame) may be replaced as long as they are replaced with the

exact material that it is replacing and all pickup points must remain in the stock locations as delivered currently from 600 Racing, Inc. The clips may be purchased through 600 Racing, Inc. and its dealer network. The driver's compartment of the frame (roll bars, cross braces, etc.) may not be repaired or replaced if damaged (see rule above - Replacing a Frame). **The INEX technical inspector reserves the right to disallow a repaired car from an INEX-sanctioned competition that does not appear to be properly repaired.** Once a frame is repaired from its original form, INEX, 600 Racing, Inc. and the technical inspector assume no liability for any injuries that may occur as a result of this repair regardless of the approval given to compete with that repaired frame.

20. **GEAR RATIOS:** Only rear end gear ratios from a 2:50 to a 4.30 are permitted. The gears must remain within the stock dimensions, steel thickness, location and configurations as currently delivered by 600 Racing, Inc

21. **GENERAL APPEARANCE OF THE CAR:** All competitors must present a neat, clean and stock appearing car for any INEX-sanctioned competition. Crash damaged cars must be repaired to the minimum technical standards before returning to competition. An INEX official may deny a car from competing if it does not meet the minimum acceptable standards as mentioned above. INEX reserves the right to deny access in competition because of a sponsorship, advertisement, paint scheme and/or lettering on a car not in "good taste," or in the spirit of keeping this a family sport.

22. **HEIM ENDS:** Only magnetic steel heims as currently delivered by 600 Racing, Inc. or magnetic steel heims of very similar dimensions are permitted on a Thunder Roadster. The stock heims are designed to bend/break and absorb energy under impact. Heims may be upgraded, however under impact, the upgraded heims may not bend or break as quickly thereby transferring the impact-energy to the driver and an injury may result. Aluminum heims are not permitted.

23. **JAM NUTS:** At least one jam nut is required to be used with all radius rods and ball joints. One or two (1/4" minimum 7/16" maximum width) jam nuts are permitted on the upper and lower ball joints.

24. **LOWER CONTROL ARMS:** The lower control arms must remain stock, within the stock dimensions, steel thickness, location, and configurations as currently delivered by 600 Racing, Inc. and may not be altered in any way. (Right side include 12 ½" X 16 ¼" or 12 ½" X 17", Left side include 11 ½" X 16 ¼" or 11 ½" X 17")

25. **MANDATORY SERIES SPONSOR DECALS and PATCHES:** INEX and the Thunder Roadster decals must be prominently displayed in the INEX-approved locations

at all INEX-sanctioned events. The INEX patch and mandatory sponsor patches must be displayed prominently on the right side chest area of the driver's suit.

26. **MIRRORS:** Cars may use a mirror mounted within the driver's compartment or small mirrors may be installed onto the "A" post. The type of mirror(s) shall be the choice of each individual driver. The interior mirror may not exceed 42 sq. inches in surface area. Mirrors may not be permitted at certain tracks.

27. **NERF BARS:** The nerf bars must remain within the stock dimensions, steel thickness, location and configurations as currently delivered by 600 Racing, Inc. and may not be reinforced in any way. No other type of nerf bars are permitted.

28. **PICKUP POINTS & SPACERS:** Absolutely no modifications of the frame pickup points, rear end pickup points or spindle points are permitted. A maximum 3/4" wide spacer may be used on all 1/2" diameter bolts.

29. **RACK & PINION STEERING:** Only the rack & pinion steering box as currently delivered and stamped 600 Racing, Inc. is permitted. A Stiletto-brand or unmarked rack & pinion steering box is not permitted.

30. **RADIOS ARE PERMITTED:** *Two-way radios will be permitted (and may be required at certain tracks) in Thunder Roadster competition.*

31. **RADIUS RODS/PANHARD BAR:** The radius rods and panhard bar must remain within the stock dimensions, thickness, location, and configurations of the stock component, as currently delivered by 600 Racing, Inc. (7.5", 10", 11", 12", 13", 22.5") Each measurement will have a tolerance of +/- 1/8" (0.125"). Steel radius rods with the exception of the panhard bar are not permitted.

32. **REAR AXLES:** The long and the short rear axles must remain stock, within the stock dimensions, steel thickness, location and configurations as currently delivered by 600 Racing, Inc. and may not be reinforced in any way. If one-piece axles are used, they must be stamped INEX and be as delivered by 600 Racing. Any type of aftermarket axle, an axle modified for lightening purposes or axles not in accordance with the above rule will result in an immediate disqualification and confiscation of the illegal parts.

33. **REAR ENDS:** Only 10 bolt pattern/wide flange (5/8") Toyota, locked-steel rear ends are permitted. All rear end components to include the housing, and pickup points must meet the specifications of the stock components as delivered by 600 Racing, Inc. The rear end must be locked (all spider gears welded or steel spool of a minimum 6.0 pounds, 5.25

pounds for a 2:50 spool, as currently delivered through 600 Racing, Inc. only). No limited slip differentials, aftermarket differentials, quick change rear ends, floaters, homemade or otherwise are permitted. Only OEM bearings are permitted. No hemispheric or similar type bearings are permitted. No spacers are permitted between the backing plate and bearings. Axle tube material must be 3" O.D. and .120" wall thickness. A "double-shear" rear-end housing is available through 600 Racing, Inc. (Competitors are allowed to upgrade to the stock 600 Racing, Inc. "double-shear" specifications).

34. **RIDE HEIGHT:** Frame clearance must be a minimum of 3". This measurement is to be checked without the driver in the car.

35. **SHEET METAL:** The minimum thickness of sheet metal is .036". The stock sheet metal may not be removed or altered in any way.

36. **SHOCKS:** All Thunder Roadsters must use INEX (stamped with the INEX logo) original equipment shocks as delivered by 600 Racing, Inc. The competitor must be able to show INEX logo when requested. Changing or altering the fluid or pressure inside is illegal. Shocks may be turned upside down. Shock bumpers are permitted (maximum 1/4" tall). Using shocks that have been tampered with, or altered in any way will result in a minimum six (6) month suspension for car driver and owner and possible fines may also be imposed.

37. **SPINDLES:** Aluminum spindles (and pickup points) must remain stock, within the stock dimensions, thickness, location and configurations as currently delivered by 600 Racing, Inc. **Additional gussets (other than stock) are not permitted. Repairing a broken or cracked aluminum spindle is not allowed.** Steel spindles are not allowed for use on Thunder Roadsters.

38. **SPRINGS:** All Thunder Roadsters must use 10" or 8" springs. Any spring weight combination and aftermarket springs of stock design are acceptable. Only one spring is permitted per shock. Spring rubbers are not permitted.

39. **SPROCKET ADAPTERS:** The sprocket adapters must remain stock, within the stock dimensions, steel thickness, location and configurations of the original, as currently delivered by 600 Racing, Inc. Setscrews for the sprocket adapter nut are permitted. Lightening the sprocket adapter for weight savings in any way is illegal.

40. **STEERING COLUMN:** The steering shaft or steering column bracket may be modified for driver comfort or safety by altering the length of the shaft or by altering the steering column bracket that connects to the dash. Intentional lightening for

weight saving measures is not permitted. Modification of the drivers compartment rollage is not permitted.

Steering Quickeners - Steering quickeners are not permitted without special written permission from INEX.

Steering Shafts - The steering shafts must remain stock, within the stock dimensions, steel thickness, location and configurations as currently delivered by 600 Racing, Inc. and may not be reinforced in any way. Upgraded steering joints are acceptable.

41. **STEERING WHEELS:** Larger or smaller steel steering wheels are permitted. Aluminum steering wheels are permitted. Factory racing quick release steering hubs are mandatory.

42. **TIRES:** The tire must be a Hoosier 26.5/8.0-15 Roadster Edition. Tires may not be soaked, softened, siped (razor cuts), grooved or recapped.

Hardness - If any tire is softer than 42 points on the durometer, the driver will be disqualified for that event and the tire will be destroyed. Tire warmers and any other means of artificially warming tires are prohibited.

“Dry Tire” Rule - It is prohibited to use traction compounds or any substance that might alter the physical properties of a tire as supplied by the manufacturer. Tire cleaners/shiners, tire softeners, track adhesives, brake fluid, diesel fuel, etc., will not be permitted on or inside the tires. **Any tires with signs of these products on them will be impounded for further testing. And that driver will be disqualified.** Drilled or damaged tires may not be patched or repaired in any way! Violation of this rule may result in a suspension to be determined by INEX.

43. **TRACTION CONTROL DEVICES:** No electronic or computerized wheel spin/traction control devices are permitted. Any driver caught using these devices will be suspended for at least one (1) year.

44. **UPPER CONTROL ARMS:** The upper control arms must remain stock, within the stock dimensions, steel thickness, location, and configurations as currently delivered by 600 Racing, Inc. and may not be altered in any way.

45. **WIDTH:** No wheel or axle spacers are permitted.

46. **WEIGHT: No car shall weigh under 1500 pounds with the driver.** The weight percentage from left to right with driver will be no more to the left than 52.0%. Competitors will not be permitted to add fuel after an event to meet the minimum weight.

Weight Saving Measures - Lightening “stock” components by shaving, milling, drilling or any other method is illegal. Any item on a Thunder Roadster that is used (other than what is mentioned in the rules) as a weight saving method is considered illegal. Non-stock aluminum or titanium components are considered illegal and will be confiscated immediately.

47. **WHEELS:** Wheels must be stock as delivered by 600 Racing, Inc. The minimum weight of a wheel & tire combination must be at least **33 pounds** without additional steel, lead, or wheel weights. All wheel weights must be covered with duct tape. Bleeder or relief valves are not permitted in the wheels. No wheel spacers allowed.

48. **WINDSHIELDS/SCREENS:** Cars may have either a screen or lexan windshield, in the front window area (not to extend beyond the left side ‘A’ post, higher than the top bar of the roll cage or beyond 12” from the ‘A’ post on the right side).

ENGINE SPECIFICATION RULES

The engine must remain a factory-stock Yamaha 1250 (sealed by 600 Racing Inc.) as currently delivered through 600 Racing, Inc. The sealed 1219 engine and the 1200 unsealed engines are not allowed for use in Thunder Roadster cars. Only those changes as described in this section of the rulebook are permitted.

***The XJ 1250 is a sealed engine. Being in possession of and competing with a tampered sealed engine, or tampering, removing or altering the engine seals may result in up to one (1) year suspension for both the owner and driver.

1250 ENGINE SPECS: The only modifications allowed to the factory sealed 1250 engine are:

- A. Changing the carburetor jets
- B. All stock carburetor adjusters may be used
- C. Adjusting the valve shims
- D. Installing an aftermarket clutch and spring of original design (no aluminum clutch plates)
- E. Upper head oilers, heavy duty valve springs, “pinned” camshafts and steel sleeves are permitted only if installed by an INEX authorized sealed engine shop.

If this rulebook does not specifically say that you can change/modify/add something, then you must consider that the change/modification/addition is illegal. Any questions about the legality of a change/modification/addition not covered in this rulebook, must be answered by INEX in writing and presented to the tech inspector upon request. If you have a request for a change/modification/addition, please contact INEX before making the change/modification/addition.

1. **WATER-COOLED ENGINES:** Water-cooled engines must retain all components in their original configuration in their original position as delivered by 600 Racing and as described in the official installation instructions provided by 600 Racing. No replacement water pump, radiator, or cooling fan is allowed.

2. **ALTERNATORS:** Modification to the charging system is not permitted. The alternator must be charging at all times. No switches disconnecting the alternator are permitted. The car must continue to run at an idle with battery disconnected,

3. **CLUTCH:** The clutch (plates and springs) may be replaced with any aftermarket type of the same design. Aluminum clutch plates are not allowed. A billet clutch basket will be allowed. The billet basket, primary drive gear, shims and springs must weigh a minimum of 5.5 lbs.

4. **CRANKING COMPRESSION:** Changing the cranking compression by altering the cam gear is not allowed.

5. **ENGINE COATINGS:** Only coatings as delivered stock from the factory are permitted. Intentional removal of any coatings is not permitted. Repainting the outside of an engine, and using an unpainted engine is also permitted.

6. **ENGINE LOCATION & MOUNTS:** The engine and upper or lower engine mounts must remain within the stock dimensions, steel thickness (no aluminum mounts), location and configurations as currently delivered by 600 Racing, Inc.

7. **ENGINE SERIAL NUMBERS:** All engine casings must have a serial number. Any engine casing without a serial number will be considered illegal and not be permitted to be used in any INEX-sanctioned events.

8. **EXHAUST SYSTEM:** The header, gaskets and muffler must remain within the stock dimensions, steel thickness, location and configurations of the original, as currently delivered by 600 Racing, Inc. The internal components of the header may not be altered. Header wrapping (tape) is acceptable. Ceramic coatings are not permitted.

9. **FUEL:** Only petroleum-based unleaded or leaded gasoline as defined by the American Society of Testing and Materials (ASTM) is permitted. The Yamaha Motor Corp. recommends the use of 89 octane unleaded gasoline. Higher octane fuels can cause higher operating temperatures and reduce the running life of your engine. The only oxygenates permitted are MTBE and ethanol alcohol, in the same quantity, that are found in pump gasoline. ***INEX reserves the right to require all cars use the same brand and designated grades of gasoline in a given event***

Specific Gravity - The specific gravity must read from .710 to .760 at 60 degrees Fahrenheit, factored by a specific gravity temperature chart.

Laboratory Testing - INEX has the ability to conduct laboratory analysis of fuels. Samples for lab analysis may

be taken from a competitor's fuel tank at any time at the discretion of the INEX Technical Inspector.

The specific elements which will be searched for include: propylene oxide, alcohols (all types), aldehydes, aminodiphenyl, benzene (in excess of EPA limit), benzidine, beryllium compounds, bromine compounds, butadienes, chlorinated compounds, chromates, dioxanes, ethyl acrylate, ethylene oxide, hydrazine compounds, methylene dianiline, naphthylamine, nitrogen compounds (nitromethane, et al.), styrenes, toluidine and xylidine. Also added to this list will be substances deemed to exceed the Threshold Limit Values (TLV) or Biological Exposure Indices (BEI) as listed by the American Conference of Governmental Industrial Hygienists (ACGIH).

Penalty for Fuel Rule Violations - Any competitor (driver and/or owner) caught using any of the illegal fuel additives as previously mentioned is subject to a minimum 60 day suspension from the date of the fuel test results. Suspensions will be determined by INEX based on the chemical composition of the additive in question.

10. **"LEGAL" FUEL ADDITIVES:** Lubrication or knock suppression additives are permitted provided the resulting mixture meets the specific gravity, lab analysis requirements, etc. described in rule #8 "Fuel."

11. **FUEL CELL:** Must be an INEX-approved steel fuel cell. Must be stock as currently delivered by 600 Racing, Inc. and must remain in the stock location. Foam is mandatory in all fuel cells as delivered by 600 Racing, Inc.

Fuel Cap - Make absolutely sure that you check the cap on your fuel cell for tightness before going onto the racetrack. The cap should fit snugly into the cell. Car number on the cap is required.

Fuel Cooling Devices - Fuel cooling devices of any kind are not permitted on the car at any time.

12. **FUEL LINES:** Fuel lines may not be located in or run through the driver's compartment. Fuel lines may be rubber or steel braided. Fuel lines may not be attached to the electrical wires.

13. **FUEL FILTER:** Aftermarket fuel filters may be used. No glass fuel filters will be permitted. No plastic fuel filters are allowed in the engine compartment.

14. **FUEL SHUT-OFF VALVE or FUEL REGULATOR:** Aftermarket fuel shut-off valves and fuel regulators are permitted.

15. **GAUGES:** Analog gauges that record or display the following information only are permitted, cylinder head temperature, RPM, oil pressure and oil temperature. Digital gauges are not permitted with the exception of gear indicators, Longacre and Intercomp lap timers and Fastach

Digital Tach (by SenDec Corp.) as delivered by 600 Racing, Inc. Gauges that record or display wheel spin, shock travel, exhaust temperature, g forces, or throttle action are not allowed at any time. No other information may be recorded by onboard gauges. Onboard telemetry systems are not permitted. Direct reading oil temperature and oil pressure gauges must use steel braided lines, not plastic or rubber.

16. **IGNITION SYSTEM:** The complete ignition/engine control system must be the original OEM parts for the Yamaha XJ 1300. The electrical harness may be replaced only with the electrical harness connector kit as delivered through 600 Racing, Inc. Electronic throttle (traction) controls are not permitted. In-line fuses are only permitted (no fuse blocks are permitted). Ignition pickup coil wires must run directly to the ignition box and may not be taped or tie wrapped to other wires. No open wire ends or unused connectors allowed within reach of the driver.

Ignition Control Box - The stock ignition control box (Yamaha XJ black box as delivered by 600 Racing) is the only box permitted to be used and may not be altered in any way. The ignition control box must be mounted as currently delivered by 600 Racing Inc. Only one black box is permitted on a car (multiple boxes are illegal).

Swapping of Ignition Control Boxes - INEX reserves the right to provide a substitute ignition/engine control system to any competitor at random at any time. The INEX-provided system will be exchanged for a competitor's system and must be used for that event. INEX is not responsible for any engine failure due to a provided ignition/engine control system.

Coils, Coil Wires and Spark Plug Boots - These components must be stock Yamaha XJ1300 parts as currently delivered by 600 Racing, Inc. The spark plugs may be replaced with any aftermarket type with similar thread size. Resistors must remain in spark plug wires.

Coil Mount - The "stock" coil mount may be replaced with an INEX-approved coil mount.

Ignition Rotors - The ignition rotor must be a stock Yamaha XJ 1300 part as currently delivered by 600 Racing, Inc. No aftermarket electronic ignition advancers are permitted.

Ignition Plates - The ignition plate must be a stock Yamaha XJ 1300 part as currently delivered by 600 Racing, Inc. The ignition pickup cover is not mandatory.

17. **MUFFLERS:** Stock mufflers are mandatory and may not be altered in any way.

18. **OIL COOLERS & LINES:** Oil coolers must be cooled by air only (no dry ice systems or other type). All oil cooling systems (including lines) must be mounted in the engine compartment only. No oil coolers or lines may be mounted in the driver's compartment. Multiple oil coolers are permitted. Oil cooler fans are permitted. Push-lock fittings are permitted. Oil coolers may not be mounted below the minimum ride height (3"). Oil coolers must remain stock as delivered by 600 Racing, competitors may upgrade the front small oil cooler to the larger cooler as delivered by 600 racing.

Oil Cooler Scoops - Oil cooler air scoops (with a max. wall thickness of 1/8" sheet metal) may not extend below the minimum ride height (3") or attach to the stock front bumper.

19. **REMOTE OIL FILTERS:** Remote oil filters must be mounted in the engine compartment only. The remote oil filter must be located in a position where it cannot be easily damaged in the event of an accident. Remote oil filters may not be mounted below the minimum ride height (3"). Inline "screen type" filters may be used in place of the remote "spin on" type oil filter.

20. **OIL CATCH CANS:** Oil catch cans (maximum 1 quart capacity each) can be used. It must be securely fastened and remain within the engine compartment. It may only be plumbed in by hose from the stock crankcase breather opening or the oil fill cap.

21. **OIL CRANKCASE BREATHER:** The only location that the crankcase may have a breather is under the carburetors at the stock outlet and/or in the oil filler cap. This breather may not be evacuated through the exhaust pipe (header). **There may not be any additional breather holes for the crankcase. Breathers and hoses must remain within the engine compartment. Baffles used in the hoses are permitted.**

22. **OIL PUMP:** The stock oil pump may not be modified in any way. Relief valves may be shimmed.

23. **OIL ADDITIVES:** Any competitor caught using any of the following additives in the engine oil may be banned from all INEX-sanctioned events: hydrazine, toluene, dinitrotoluene, dioxane, propylene oxide, nitromethane, or nitropropane, or any additives determined by INEX to be hazardous.

24. **VALVES:** Only stock valve lifter and adjuster shims may be used.

ENGINE CLAIMING PROCEDURE FOR THUNDER ROADSTERS

The purpose of the claim is to provide a "safety valve" to help keep the series competitive and to keep the cost of racing affordable. Only drivers (or legal guardian) that are current INEX members may claim an engine after the main event for \$5670.00 cash or certified check only. That person must show their membership card to submit a claim.

A) **POSITIONS THAT MAY CLAIM A 1250 ENGINE:** Any driver (or legal guardian representing the driver) finishing in the top ten positions and on the lead lap of the feature event may claim a 1250 engine from a top five finisher within the same race. Should there be more than one claim to an engine, the driver in the highest finishing position has the first right to the engine claim.

B) **TIME OF THE CLAIM:** In order to file a claim, the

claimer must stop their car at the designated technical inspection area prior to going to their trailer in the pit area. At this time the claimer must notify the INEX technical inspector of their intentions to file a claim. The membership card, claim card and full payment must be presented to the INEX tech inspector no later than ten (10) minutes after the finish of the race. Once a claim is made, it may not be withdrawn. The serial number on the casing of the engine must be written on the claim card by the INEX tech inspector immediately following the claim.

C) **COMPONENTS OF THE ENGINE CLAIM:** Only the top five feature finisher's engine including carburetors, alternator, and starter may be claimed. Not included in the engine claim are the ignition electrical components, ignition box, coils, header, oil cooler, remote filter, sprocket adaptor, clutch slave cylinder, and air ducts.

D) **CLAIM PAYMENT:** Cash or certified check in the amount of \$5,670.00 (or equivalent foreign funds) along with a claim card must be presented to the tech inspector. The tech inspector must produce (but not give) the payment to the claimer before the engine is removed. All certified checks shall be made out to the claimer for the proper amount written clearly and legibly (unless "Option B" is chosen - then the certified check shall be made out and given to INEX, Corp.).

E) **CHOICE OF THE CLAIMED ENGINE:** At the time of the claim, the claimer must choose on the claim card either "Option A" or "Option B".

"Option A": The claimer takes immediate delivery of the claimed engine. The claimer is then responsible for the legality of all engine components not secured by the seals (the engine builder is still responsible for engine components secured by seals).

"Option B": The claimer may choose to have the INEX tech inspector send the claimed engine to INEX headquarters (or an INEX-approved inspection site-determined by the Executive Director) for inspection for an additional fee of \$250 (payable to INEX). The INEX representative at the track will be responsible for holding the engine until the time of shipment (this can not be done after the claimer leaves the track with the engine). The claimer must pay for shipping charges and inspection fee and the engine must be sent to INEX within seven (7) days of the claim by the INEX representative. If the engine is not at the INEX inspection site within seven (7) days, the payment will be given to the claimer and the engine will not be checked for legality. The engine will become the property of the claimer immediately.

Upon inspection of the claimed engine, if the claimed engine is found illegal in any way, the check for \$5,670.00 will be returned to the claimer (who is still responsible for shipping charges to the inspection) All illegal 1250 engine components (items secured by seals) will be impounded and become the property of INEX. It will be the engine builders responsibility to reimburse the driver of a car found with illegal components secured by seals.

If the claimed engine is found legal, the owner of the

engine being claimed receives the \$5,670.00 and the engine will be sent to the claimer (who is responsible for shipping charges for the engine).

F) **REFUSAL OF A CLAIM:** If the claimer refuses to sell a 1200 or 1250 engine after a legitimate claim, he will be disqualified and suspended from all INEX sanctioned events for one year. Once a refusal of the claim is made, it may not be rescinded. **The driver will also forfeit all cash winnings for the feature, points for that race, any trophies earned for the feature and possibly ALL points earned for the season at the discretion of INEX.**

G) **REMOVAL OF THE CLAIMED ENGINE:** The claimed engine shall be removed immediately from the car by the team being claimed. Any sabotage to the engine by the removal team will result in that driver and car owner being suspended for two (2) months and a \$500 fine will result. The claim will also be nullified by INEX and the claim money will be returned to the claimer. The person claiming the engine may not leave the track until engine is removed, turned over to him or in the possession of the INEX tech inspector and he agrees that no sabotage has occurred. If the claimer leaves before the above items are satisfied, the claim will be nullified.

*** INEX may penalize a claimer deemed to be malicious, spiteful, or who otherwise acts in bad faith. A driver may claim no more than one engine during the calendar year.**

INEX reserves the right to suspend the claim rule at anytime.

NOTES:

- All components secured by seals are the responsibility of the engine builder. All components not secured by seals are the responsibility of the driver.
- Once a sealed engine is claimed, it must remain sealed. Only INEX authorized sealed engine builders are permitted to remove engine seals.
- Tampering with engine seals will result in a one year suspension from all INEX sanctioned events.

SPECIFIC COMPONENT PROTESTING ON THUNDER ROADSTERS

The purpose of the protest is to provide a "safety valve" to help keep the series competitive and to keep the cost of racing affordable. Only current INEX members or associate members may protest a component. (That person must show membership card to submit a protest.) Any specific component of a competitor's car may be protested by any driver finishing that feature after the race for **the amount designated** in terms of cash or certified check. The only items that may be protested on the Yamaha 1250 engine will be the seals & the items specifically listed in the rulebook as allowed changes / modifications / or additions to the Yamaha 1250 engine.

Note: "On track" race calls cannot be protested to INEX.

TIME OF THE PROTEST: The protester's membership card, protest card and full payment (in cash or certified check no personal checks) must be presented to the INEX tech inspector no later than ten (10) minutes following the finish of the race. Once a protest is made, it may not be withdrawn. All purse and points are to be distributed after a decision on the protest has been made. Tech inspectors will not accept verbal protests or protests which are not accompanied by the required protest fee, protest card and protester's membership card.

CHECKING THE PROTEST: The protested component will be removed from the car or made available for inspection by the protested team's crew and taken for inspection by the INEX tech inspector. The following people will be permitted (but not required) to be present at the protest site: protested driver and crew (the crew shall leave once the part is removed), protester, INEX tech officials and a speedway management representative. If a decision at the track cannot be made, then the component will be sent to INEX for a final decision on legality. **On a protest, it is the driver's duty to prove his legality, not the tech officials or protester's duty to prove the violation.**

WHEN THE PROTEST FINDS A LEGAL COMPONENT: After inspection, if the protested component is found legal, the protest money will be given to the driver of the car from which the component was protested (less reasonable inspection fees and shipping charges determined by INEX).

WHEN THE PROTEST FINDS AN ILLEGAL COMPONENT: After inspection, if the protested component is found illegal, the driver of that car will be disqualified from that event, forfeits all prizes and honors earned at the event and face the possibility of more penalties at the discretion of INEX. The illegal parts will also be confiscated by INEX. The protest money will be returned to the team filing the protest. The driver who was found illegal will be responsible to pay for inspection fees and shipping charges in the form of a fine.

REFUSAL OF A PROTEST: If the driver of the protested car does not allow inspection under these terms, he will be disqualified, forfeit all points, purse monies, prizes and awards earned at that event and possibly suffer more penalties as determined by INEX. The car will also be suspended from competition.

* INEX may penalize the author of a protest deemed to be malicious, spiteful, or who otherwise acts in bad faith. No driver may file a protest more than three times during the calendar year.

Choice of one (1) of the following items to be protested:

- A driver may only be protested by one other competitor at each event.
- (If more than one protest is filed against a competitor, the driver with the higher finishing position in that race will be allowed the protest.
- No driver may file a protest more than 3 times during the calendar year.

Protest Fee Schedule for Thunder Roadster Cars:

Protestor must verify with the INEX inspector that the proper tools are available to check protested items.

- \$50.00 Air Filters (Velocity Stacks and size of filter)
- \$75.00 Alternator (working & wired properly)
- \$100.00 Fuel (Laboratory Test)
- \$100.00 Exhaust System (check header and muffler)
- \$100.00 Total Weight
- \$100.00 Rear Axles (Check both long & short axles)
- \$150.00 Rear End Gears (Locked)
- \$100.00 Shocks (each shock)
- \$100.00 Spindle (Left & Right)
- \$100.00 Driveshaft (stock)
- \$100.00 Wheel Offset (Check all four wheels)
- \$100.00 Wheel Weight with Tire (Check all four wheels)
- \$100.00 Front Bumper or Rear Bumper (meets all specs)
- \$200.00 Carburetors
- \$50.00 Durometer Test of Tires
- \$120.00 Engine Seals
- \$500.00 Sealed engine inspection (*Engine will be inspected by INEX*)

*TBD - Reasonable fee to be determined by the INEX official for other specific items.

The sealed engine inspection process will be handled under the guidelines as listed for "protesting specific components on Thunder Roadsters" with the exception of the following:

- Only a driver (or legal guardian representing the driver) finishing in the top 10 positions and on the lead lap of that feature, may have a sealed engine inspected from a car finishing in one of the top 5 positions of that race.
- Sealed engine inspection card must be presented in place of a protest card.
- The engine in question will be removed by the team that the \$500 inspection was filed against.
- Once the engine is removed, the INEX inspector will take possession of the engine and make arrangements with INEX to have that engine delivered to INEX to be inspected.
- If the inspection finds the engine to be legal, the engine will be re-assembled and re-sealed, then returned to the owner. The inspection fee will be used for shipping and inspection costs.
- If the inspection finds the engine to be illegal, the repercussions and penalties will fall upon the engine builder responsible for building that engine. The driver will not be responsible for components secured by the seals. The inspection fee will be returned to the driver that filed the \$500 inspection.

These rules and/or regulations apply to all INEX-sanctioned events.