

2024 Thunder Four Rules – FINAL

This four-cylinder intermediate level division allows the advanced racer the ability to advance their driving skills and car building experience. Exciting, challenging and lots of fun, Thunder Fours are the perfect opportunity to further the dream of learning how to prepare and race your very own car, without spending tons of money. The following rules are an effort to promote growth, affordability, and fairness of competition. While we understand these rules may not be perfect and may not encompass all cars, we request they not be interpreted as opportunities to cheat and/or discover loopholes to gain an advantage. We shall always welcome and work to accommodate all who respectfully meet the spirit of the rules and desire to race with Thunder Fours at Wiscasset Speedway.

Since it would be both impractical and nearly impossible to list within the confines of any rulebook, all the modification, adaption and infractions that could and would be illegal, it shall be understood for the purpose of rule enforcement that only those items that are specified in this book are allowable and permissible. In addition, The Wiscasset Speedway management reserves the right to penalize anyone who violates these rules.

1. Body: The following details the makes and models approved for Thunder Four Competition. Any foreign or domestic, four-cylinder, four passenger, front or rear wheel drive car. Cars must be powered by a stock fuel injected 4-cylinder engine. Compact trucks, four-wheel drive and AWD cars are not permitted.

1.1 Air Flow Devices: No airflow devices permitted. No under car panning permitted.

1.2 Appearance: Cars should be neat appearing. Panels must remain as manufactured and must match stock frame.

1.3 "A" Pillar: "A" pillar must remain complete and be attached to roof in stock location.

1.4 "B" Pillar: No add-ons to the fore side of pillar.

1.5 Bumpers: Stock front and rear bumpers. Bumpers are required to have a retention chain/cable at both ends.

1.6 Clearance: No part of the body (including side skirts and nose piece) may be closer than five (5) inches to the ground with the driver seated in driver seat. Note: Air pressure changes after race will not be permitted to gain clearance.

1.7 Construction: Original dimensions of all bodies must be retained as manufactured.

1.8 Doors: Must be welded or riveted shut.

1.9 Header and Tail: Stock for make and model.

1.10 Interior Panels: Inner panels may be removed on all cars. Wheel openings may be trimmed for tire clearance, but edges must be rolled inward to eliminate tire damage to competitors.

1.11 Numbers: All car numbers must be registered with Wiscasset Speedway. Car numbers must be a minimum of eighteen (18) inches high and three (3) inches wide.

1.11.1 Numbers shall be painted in contrasting colors to the car on both doors and the roof. Reflective chrome, gold or prism numbers are not permitted.

1.11.2 Roof numbers should be visible as read from the grandstand side of the car.

1.11.3 The car number must appear in six (6) inch high numbers in the uppermost right corner of the windshield and on the right rear tail piece.

1.12 Roof: As manufactured.

1.13 Rub rails: Rub rails must stay against body and remain between the wheels. Must be made of plastic.

1.14 Spoiler: Not allowed.

1.15 Windows: Full windshield must be used. Lexan type replacement may be used. Minimum eighth inch (1/8") Lexan windshield is allowed with at least one (1) support strap installed close to center all other glass must be removed. No rear, side or quarter windows may be used. No tinted windows permitted. Windshield angles will be degreed.

2 Chassis: All chassis must maintain stock wheelbase for frame utilized. No structural modification to the frame. All body components must be original equipment without modification except to accommodate roll cage installation.

2.1 Design: The cage shall consist of three (3) vertical upright bars connected at the top on all sides. An “X” member must support the “B” rear vertical uprights. A minimum of three (3) horizontal bars are required on the left side door area and a minimum of two (2) horizontal bars are required on the right side. Top hoop and uprights must closely conform to the roof line and windshield posts; a maximum of a two (2) inch space permitted between the body and cage.

2.1.1 Door Plate: Vehicle must have driver door plate minimum of sixteen (16) gauge, three sixteenths (3/16) inch plate maximum metal either between door bars or over the door bars on the driver side. Sixteen (16) gauge steel must be welded in between door bars and door bar connectors on driver side only.

2.2 Deck Lids: No scoops or openings permitted in hood.

2.3 Fire Walls: Stock firewalls for make and model must be used and must be in the original position. All holes must be covered with 22-gauge steel and sealed. Rear firewall must be installed on any car that does not have a factory unit. Firewalls must be sealed any prevent fluids or fumes from entering driver compartment.

2.4 Frame: As manufactured.

2.5 Front Clip: As manufactured.

2.6 Fuel Cell: Must be a steel container with a check/rollover valve in the vent line; secured with two (2) straps front to rear and two (2) straps left to right. The minimum dimension of strap material is eighth (1/8) inch x one and one half (1½) inch. Fuel cell may not be offset.

2.7 Ground Clearance: Minimum ride height is five (5) inches at the lowest part of the frame to the ground. All measurements will be taken with driver in car post-race.

2.8 Interior: Interior area of car must be completely enclosed in respect to the engine compartment, track surface, tires, and rear (fuel cell) compartment.

2.9 Pipe: Minimum roll cage tubing specification one- and one-half quarter (1 1/2) inch x point zero nine five (.095) inch DOM or seamless tubing.

2.10 Rear Clip: As manufactured.

2.11 Seat: Driver’s seat must be specifically designed for auto racing and be constructed of .125-inch-thick aluminum. Seat must be attached to the roll cage and have both a right and left headrest.

2.12 Seat Belts: Mounted with three eighths (3/8) inch bolts minimum Grade 8 washers and locking nuts. These must be attached at two (2) separate points on the frame, equal distance from the seat back and not less than twelve (12) inches apart. (See manufacturer instructions for details).

2.13 Steering Column: Stock column must be retained. Quick release steering wheel permitted. Steering wheel center must be padded.

2.14 Welds: All welds are to be of high quality and must surround the joint completely. Absolutely no butt welds or sharp edges anywhere.

2.15 Wheelbase: Must match year, make, and model.

3 Drive Train: All aspects of the drive train and support systems must remain as produced by the manufacturer. Only the stock engine that was available as a regular dealer option for year, make and model of car used shall be permitted. Like engines of different year may be used if all measurements are alike and all bolt-on equipment fits that engine.

3.1 Engine: Stock for make, model and year.

3.1.1 Block: Engine block must be stock for make, model and year. Engine must remain in stock location.

3.1.2 Camshaft: Stock for engine used. CRX may only run single overhead cam.

3.1.3 Carburetor: Not permitted.

3.1.4 Compression: Maximum permitted compression on all engines will be equal to the OEM listed compression ratio.

3.1.5 Crankshaft: Crankshaft must be unaltered OEM.

3.1.6 Cylinder Heads: Stock for make, model and year.

3.1.7 Displacement: Stock for make, model and year.

3.1.8 Exhaust: Maximum allowable pipe size is 2 inches (2”) in diameter. Exhaust is required to extend beyond the driver’s compartment and then turning downward. Exhaust may not extend beyond rear axle. **Must run track mandated muffler Cherry Bomb part no. M80200. 2" in and out.**

3.1.9 Lifters/Rockers: Stock for make, model and year.

3.1.10 Manifolds: Must use stock manifolds.

3.1.11 Exhaust: Stock for make model and year.

3.1.12 Intake: No forced air induction (turbocharger/supercharger) allowed. No porting or polishing of runners. No cold air systems. No modifications. Closed stock air box w/ stock filter

3.1.13 Mounts: Stock or stock replacements (neoprene permitted).

3.1.14 Oil Pan: Stock for engine used.

3.1.15 Pistons/Rods: Any OEM stock piston or rod. No lightweight or performance rods or pistons.

3.1.16 Valve Springs: Stock for make model and year.

3.2 Location: Stock for make, model and year.

3.3 Muffler: Exhaust system with a muffler is required and must extend past the drivers' compartment turning down toward the ground with the end of exhaust system under the race car. Exhaust will not exit out the side or the rear of the race car. Tail pipes must be angled at least sixty (60) degrees toward the ground.

3.4 Radiator: Any radiator that fits under the stock hood is allowed.

3.5 Rear Ends: Stock for make, model and year.

3.6 Transmissions: Stock for make, model and year. Open differential only.

3.6.1 Case: Stock for make, model and year.

3.6.2 Clutch: Stock for make, model and year.

3.6.3 Flywheel: OEM steel flywheel required. No alterations permitted.

3.6.4 Gears: All gears must work.

4 Electrical:

4.1 Battery: Must be securely mounted in a fully enclosed box, located forward of the front firewall.

4.2 Computers: Stock, unflashed, unaltered programming.

4.3 Fans: Electric radiator fans are permitted.

4.4 Ignition System: Stock ignition system must be used including coil assembly. High voltage and non- exact replacement coils are not permitted.

4.5 Pumps: Electric fuel pumps. Must be in-line.

4.6 Starter: Starter must be in proper working order. Starter must be mounted in factory production location for engine used.

4.7 Transponders: Must be installed on left side eleven inches (11") centerline from the rear end. Refer to Transponder diagram under General Rules.

5 Fuel: High octane racing fuel is permitted, although not encouraged or recommended. Any standard quality street-pump fuel is fully satisfactory saving unnecessary and excessive fuel expense.

5.1 Carburetor: N/A

5.2 Cells: Approved and manufactured for racing. Maximum capacity of eight (8) gallons. A check valve must be installed on the vent line.

5.2.1 Canisters: Minimum twenty-two (22) gauge steel, around fuel cells are required and must be located in back of the rear window. There must be a complete steel firewall between the fuel cells and the driver's compartment. No holes will be allowed in the firewall.

5.2.2 Filler Tube: The fuel cell must be filled from behind the firewall.

5.2.3 Height: Equal to or above the top of the stock rear frame rails.

5.3 Filters: Must be of metal construction.

5.4 Lines: Any line containing a combustible material must be steel and routed outside of the driver compartment.

5.5 Pumps: Electric fuel pumps must be wired through a low oil pressure cut off switch. Aftermarket pumps pressure must be set to factory settings for year make and model

6 Safety:

- 6.1 Fire Extinguisher:** Minimum three (3) pound fire extinguisher mounted with quick release metal bracket within reach of driver when belted in. Extinguisher must be operational with full gauge reading.
- 6.2 Fluids:** Car must not have fluid leaks of any kind.
- 6.2.1** Must have a minimum one (1) quart capacity sealed overflow container.
 - 6.2.2** Water and a cooling additive only. No antifreeze allowed.
- 6.3 Padding:** Any bar within the drivers reach must be padded with an approved fire-resistant product. Pipe insulation is not acceptable.
- 6.4 PPE:** Personnel Protective Equipment.
- 6.4.1** One- or two-piece long sleeve SFI approved fire-resistant suit in good condition and free of rips, tears or holes. Fire resistant shoes and gloves.
 - 6.4.2 Helmet:** Full face must meet or exceed the Snell 2015 standard. Must have face shield. Glasses, goggles, or open face helmets are not permitted.
 - 6.4.3 Head and neck:** Support/restraint safety device highly recommended.
- 6.5 Under Garments:** We encourage the use of fire-resistant underwear, socks, and head stocking.
- 6.6 Radios:** Two-way communications shall be allowed; however, Wiscasset Speedway Management will require frequency registration.
- 6.7 RaceCeivers:** Are mandatory equipment. Frequency 454.000.
- 6.8 Seats:** Aluminum racing seat with right and left head supports. Seat must be mounted and attached securely to the cage. A support brace must be installed at the rear of the seat.
- 6.9 Seat Belts:** Five-point quick release harness system in good condition mounted with three eighths (3/8) inch bolts minimum Grade 8 washers and locking nuts. These must be attached at two (2) separate points on the frame, equal distance from the seat back and not less than twelve (12) inches apart. (See manufacturer instructions for details). Sternum belts are highly recommended.
- 6.10 Steering Wheel:** All steering wheels must have a center pad.
- 6.11 Towing:** Towing identifiers are required. Two toe hook areas must be marked in the engine compartment and two in the aft section. This will be where tow hooks/straps are applied.
- 6.12 Window Net:** Racing regulation window net with quick release attachment required to be securely installed on driver side window. Window nets must be securely fastened at all times when car is on racing surface.

7 Suspension:

- 7.1 Adjusters:** No driver-controlled chassis adjustments.
- 7.2 Camber:** **One and half inch (1-1/2") on right front, half inch (1/2") on left front, and quarter inch (1/4") camber on rear. Camber measurement will be from the rim with driver in car.**
- 7.3 Control Arms:** Stock for make, model and year. Aftermarket permitted if used on BOTH sides (If used both sides, LT/RT must match.)
- 7.4 Steering:** Stock for make, model and year.
- 7.5 Shocks/Struts:** Original equipment gas shocks/struts only. Shocks/struts must be in original position. No adjustable shock/struts permitted. No painting or removing numbers from the shocks/struts. Only commonly over the counter shock absorbers/struts allowed – i.e. – NAPA, Car Quest, O'Reilly, etc.
- 7.6 Spindles:** Stock for make, model and year. Spindles may be ground/drilled for camber adjustment.
- 7.7 Springs:** Racing springs permitted.
- 7.7.1 Altering:** Stock springs may be cut or heated to obtain ride height.
 - 7.7.2 Bump stops:** No suspension travel limiting devices of any kind. If original equipment, they must be removed.
 - 7.7.3 Front:** Must be the same height, wire size, coil count and diameter side to side. (Same spring rate)
 - 7.7.4 Rear:** Must be the same height, wire size, coil count and diameter side to side. (Same spring rate)
 - 7.7.5 Rubbers:** no twist in boosters, only one rubber is permitted per spring. Spring rubber cannot exceed 360 degrees.
- 7.5 Sway Bars:** Must be stock OEM sway bar for make, model and year. End links must be identical side to side and mounted with all rubbers and washer in stock location.

7.6 Track Width: Maximum tread width sixty-one (61) inches, measured center to center at spindle pin height.

7.7 Towers: May be slotted or drilled for camber/caster adjustment but strut towers must not be moved. Bending of suspension parts is not allowed. No caster/camber plates or solid bearing mounts.

7.8 Traction Control: No traction control of any kind.

8 Weights: Car weights may be measured pre- or post-race with driver in the seat.

8.1 Ballast: weight must be located outside of the driver compartment with each piece attached with a minimum of two (2) three eighths (3/8) inch bolts, washers and locking nuts. All weight must be lead with each piece painted white and display car number.

8.2 Percentages: One (1) pound per cc – minimum of two thousand (2000) pounds with driver in the seat.

8.2.1 Left side: Maximum is fifty four percent (54%). Must remain at or below 54% prior, during, and post-race.

8.2.2 Penalties: Dual overhead cam engine.....+50 lbs.

Twin cam Honda engine+100 lbs.

9 Wheels/Tires/Brakes:

9.1 Bleeders: Not permitted.

9.2 Brakes: All four wheels must have brakes in good condition. No bias adjusters.

9.3 Tire: Commonly available DOT approved radial tires and Legend take off (used) tires will be allowed. Only Federal Legend takeoffs permitted (no Hoosiers). No retreads of any kind. No "V" rated or otherwise high-performance tires. All four tires must be the same aspect ratio – i.e. four 60 series or four 65 series. No restriction on numerical value -165,185,195,205, etc. Minimum tread wear 300.

9.3.1 Conditioner: may NOT be used in the Thunder 4 Mini division (new or used tires).

9.3.2 Durometer: All tires are subject to random testing. Testing will be conducted at ANY time

9.3.3 Penalties:

Heats: Forfeiture of heat finish and points. Must start feature at rear of the field.

Features: Disqualification (Last place finish), assigned 62 lineup points, must start rear of heat and feature next appearance

9.4 Wheels: Stock steel racing wheels max seven inches (7") wide measured bead to bead. All four wheels must be same diameter and width. All wheels must have all wheel studs and one inch (1") lug nuts

All race car components, including sealed engines, may be subject to teardown/dismantle inspection at any time. Refer to General Rules, Tech Information Section.

The definition of OEM for the purpose of rule interpretation is a part specified by the manufacturer as being for a specific make, year, model of an automobile or commonly available thru a replacement parts supplier i.e.: NAPA, O'Reilly, Car Quest. This does not include GM Bowtie or Ford SVO.

DISCLAIMER: Motorsports at all levels pose a risk to your wellbeing. Following the rules set forth by Wiscasset Speedway in no way guarantees or suggests your safety.

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