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## 2016 Thunder Car Rules Sauble Speedway

### 2016 Thunder Car Rules Sauble Speedway

#### 1. Body Style

Open to any make or model of North American built 2 or 4 door sedan, having a factory listed wheelbase of 108" or more, for the make, model and year being raced. No convertibles, four wheel drive vehicles, trucks or station wagons.

No front wheel drive cars allowed. Rear wheel drive only. Race cars must be in complete and presentable in appearance at the beginning of each race.

#### 2. Body and Appearance (option 1)

Body must be stock and in stock position on frame. All chrome, moldings, ornaments, door handles, glass or plastic components must be removed except grille and windshield. No aluminum body panels. Absolutely no bars shall extend outside of body panel including the grill and bumper, with the exception of side scrub rails. Scrub rails can not extend any further forward than rear of front wheel opening, and not further forward than rear of front of rear wheel opening. (No sharp edges). Max 1" x 2" welded or bolted to body. Stock steel bodies only. No aluminum or light weight parts. A maximum of a 5" spoiler is allowed. The spoiler must follow the contour of the rear of the car. No side pods. A minimum roof height of 51", roof height will be measured 10" back from the top of the windshield to the ground. No mixing of fiberglass and steel bodies except the nose and tail covers.

#### 2a. Body And Appearance (option 2)

Specified (fivestar "S2", ultimate sandblasting Camaro & Mustang, AR Muscle Cars AR NGB fiberglass bodies will be permitted. A weight penalty will be imposed on fiberglass bodied cars (see section **33. Weight**). No mixing of fiberglass and steel bodies. Contact Sauble Speedway for approved bodies. Minimum roof height of 51", roof height will be measured 10" back from the top of the windshield to the ground. No portion of the body will be less than 5" from the ground a maximum of a 5" spoiler is allowed. The spoiler must follow the contour of the rear of the car, and may not extend beyond the sides of the bumper cover. No side pods. No wing permitted.

The 51" roof height will be mandatory by 2016 no exceptions.

#### 3. Battery

Must be secured with a metal frame and anchored with bolts securely, and separated from the driver by a fire wall or enclosed in a spill proof steel container. Battery must not be mounted beside the fuel cell. 1 - 12 Volt Battery only.

#### 4. Brakes

Stock O.E.M. parts only. Two piece hub/rotor assembly permitted, must be magnetic steel assembly, and must be non drilled, non slotted and non directional vane. A weight penalty of 30lbs will be added to the total weight of the car. Four hydraulic brakes in good working condition are compulsory and are subject to test and inspection. Pedal must be in original position. Brake proportioning valves allowed. Steel flex lines allowed. Disc brakes on the front and drum brakes on the rear. Rear disk brakes permitted, no directional, no vane type rotors permitted on the rear.

Floor mount dual master cylinder brake system permitted, masters must be of the same bore size front and rear, and a 40LBS. weight penalty will be applied. (Be prepared to remove for inspection)

## 5. Bumpers

Must be stock. Must be in stock position both front and rear and securely fastened with no sharp edges exposed, no cut offs. Minimum height 15" maximum height 18" to center. Plastic covers may be used.

## 6. Carburetor

No adapters or rising platforms allowed. One stock O.E.M. carb. no larger than 500 CFM with no modification allowed. Must have two return springs. (Max 14" x 4" air cleaner). No cowl induction, no ram air, no special air boxes. Rochester carb. maximum venturi bore diameter 1 3/8". Maximum boost venturi bore diameter 1/8" maximum throttle body bore diameter 1 - 11/16" carburetor power valve port lead plugs must show no signs of tampering or epoxy.

-- or --

R4412 Holley Carbs allowed. A "Sauble Speedway" spec. adapter plate is required between manifold and carb.

### Holley factory stock measurements are as follows:

- Metering block must have the following ID# stamped on it. Factory stock #5924 or # 5925. The #10570 will appear on replacement or service metering blocks
- metering block power valve channel restriction ports (2 holes behind the power valve) maxi. .0635"
- metering block idle feed restriction ports (2 holes) maximum: .035"
- metering block main passage to discharge nozzle (2 holes) maximum: .141"
- main body high speed air bleeds (2 holes) maximum: .035"
- main body idle speed air bleeds (2holes) maximum .080"
- butterfly (throttle plate) thickness: .0398" - .0438"
- hole in butterfly: .090" - .096"
- butterfly must have stamped on it ID# 215
- Throttle shaft diameter .368" - .369"
- throttle shaft thickness at flat of shaft .152"
- venturi bore diameter 1.373" - 1.377"
- boost venturi inner bore diameter .377" - .383"
- boost venturi outer diameter .610" - .630"
- throttle bore diameter 1.6855" - 1.6865"

## 7. Chassis, Suspension and Steering

Manufactured Frames allowed CSC, DCA or McColl OSA Stamped and serialized built replacement METRIC Chassis only. Stock frame cars must be unaltered stock chassis. Upper ball joints may be changed from stock, must remain as a ball joint. No mono-balls permitted. Steel adjustment sleeves with jam nuts permitted for tie rods, tie rods may be replaced with min. 5/8" Hiem joints. Adjustable centre link permitted (ALL56330, ALL56331, Howe #s 23396, 23397, 23399, 23380, 233973). No devises to soften or stiffen suspension. Coil spring spacers allowed.

Minimum 6" ground clearance at the lowest point of frame without driver, nose piece may be 5" min. ride height.

Stock type on piece sway bar on front only, may be adjustable at the chassis, maximum diameter of the sway bar permitted is 1-3/8". Steel housed racing shocks permitted Koni, Pro or QA1 only, no re-working of shocks. Hiem type shocks permitted. No adjustable shock mounts, **no bump stops permitted**. Rear shocks must remain in stock location. No Penske, no high pressure gas or aluminum shocks. Front and rear load bolts permitted, max of 4 only. Rated springs allowed. No coil over springs. Minimum 4" O.D. coil springs. No sliders on leaf springs. Steel tubular upper control arms may be used. Right front upper control arm with stock replacement ball joints maybe 1" shorter then left side upper control arm. Upper control arm mounts may have multiple locations as long as they fit with the parameters shown on the diagram. Front lower control arms must be unaltered stock for chassis used. Rear upper and lower trailing arms may be fabricated using 1"x2" or 2"x2" steel tubing only. They must remain stock length and contain stock rubber or urethane bushings, no mono-balls permitted. No adjustment allowed. Spindles may be replaced with heavier duty stock type solid pin spindles, all dimensions must be the same side to side.

**7a.** suspension pickup points on the chassis must be stock front and rear unless otherwise noted, no intermixing of front and rear suspension

**7b.** suspension pickup points on the rear end housing must not be adjustable and will be dimensionally the same side to side

**7c.** no additional rear suspension components are permitted (track bar, sway bar etc)

## **8. Doors**

Must be welded or bolted securely.

## **9. Drive line**

Must have steel 360 degree retaining loops 1/4" x 2", - positioned at the front and rear of the drive shaft within 6" of each U-joint. No chains. Only steel drive shafts permitted. No aluminum drive shafts etc. Drive shafts must be painted white or fluorescent. No accessories may be driven off or attached to drive line.

## **10. Engine**

**a)** Maximum compression ratio of 9.0 to 1 as calculated by the track Whistler or a physical measurement, to the discretion of the tech official. V8 engines only. Stock - No interchanging of engine between makes. Must be Ford in Ford, GM in GM, Chrysler in Chrysler. Etc. Maximum cubic inch allowed.

- GM - 350 C.I.D.

- Ford - 351 C.I.D.

- Chrysler or AMC - 360 C.I.D.

-small displacement engines (less than 311 cubic inches) will be allowed a 100 weight break

-Engine must be located in stock position. No further rearward than 92 7/8" on a 108" WB from the axle centerline to the bell housing surface of the engine block. No Notching of cross member. Engine height - no less than 13-1/2" from the crankshaft centerline to the ground.

Maximum over bore of 0.060" allowed. No aluminum block, rods or water pumps. (Ford and Chrysler water pumps exempt) engines must use factory specs for bore, stroke and rod length of engines used. (ie: 350 Chevy - 3.48" stroke x 4" bore x 5.7" rod length. No aluminum or fluid dampers, only standard O.E.M.) Steel elastomer type harmonic balancers permitted. Stock cast cranks only. Must retain O.E.M. original numbers. No stroker kits, no knife edging or chamfering.

**Pistons** - No dome pistons. 2 or 4 eyebrows cast or forged piston allowed.

**Rods** – no lightweight rods will be permitted. Aftermarket OE replacement rods allowed, as long as they are the same weight and design as stock. No reworking permitted.

No form of traction control devices will be allowed. Any devices will be confiscated. No dry sump systems allowed.

Reworked oil pans allowed. Econo racing pan allowed. An inspection hole is mandatory. No evacuation systems allowed.

**b)** Crate Motor Program Rules (2016) Sauble Speedway reserves the right to inspect a crate engine at any time

The only GM crate motor permitted is General Motors Part # 88958602 350/350hp engine. It will be raced as produced by GM with no alterations. The following will apply and only the following will be allowed:

Double roller timing chain will be permitted.

The flex plate will be Scaff-350L-153-SFI (Scat) 153 tooth SFI labeled 1 pc rear main seal plate

Holley carburetor R 4412 only (NO HP Carburetors allowed!)

Carb spacer will be a Sauble Speedway Spec Spacer.

Rev limiter will be MSD8728 (MSD) stand-alone rev limiter for OEM-HEI distributor. The rev limiter will be located to the right side of the dash out of reach of the driver sitting in the seat with the seatbelts done-up. The RPM chip allowed will be 6400 MSD.

Motor Rules will be as Follows:

All MSD chips will be installed and working during the race meet. They will be accessible to the tech official at all times. If upon inspection at any time during the race meet the chip has been removed or altered, you will receive no money and no points for that race meet, and a fine of 50 driver accumulated weekly points, and a suspension for 2 race meets.

If it is discovered that the crate motor has been tampered with in any way, shape or form, you will lose your money and points for that race meet as well as your accumulated weekly points for the season, and be further suspended for one calendar year (ie: July 1st, 2010 to July 1st 2011)

### **11. Camshaft**

Hydraulic flat tappet cam allowed only. No roller, solid lifter or mushroom cam allowed. Off set cam shaft key allowed. Must run stock size lifter bore for engine being run, no sleeving. No belt drive systems permitted. Stock rocker arms only. No roller rockers. Hydraulic lifters must be operational.

### **12. Cylinder Heads**

Must be stock O.E.M. or World Product cylinder head part # 43600-1, 43610-1, casting part # 1-052 is allowed for GM, Ford World Products # 053030, Dart Iron Eagle 165cc, cast iron straight plug only. Other stock replacement cast iron, non-vortec straight plug heads may be considered for approval if submitted in writing no less than 4 weeks prior to competition. No porting, polishing and or relieving under the valves. No angle milling. No special lightened valves. No titanium valves, no angle plug heads, no heads with casting #292, no Chev Bow Tie Heads. No vortex heads. Ford may use a Pontiac stamped steel rocker as a substitute. The maximum valve sizes as measured across the face of the valve are as follows. Stock Valve stem diameter for head being used. Valve stem diameter to be 0.343" and the valve stem may be 0.025" less in the port. A machined go-no-go gauge will be used to inspect valve stem diameter.

#### **Cylinder Head Chart**

##### **Intake Exhaust**

GM .....	1.94 .....	1.50
Ford (Cleveland) .....	2.04 .....	1.65
Ford (Windsor) .....	1.94 .....	1.60
Chrysler .....	2.02 .....	1.60

Lock nuts, valves springs and rocker studs may be changed for safety purposes. Valves springs must fit into stock cylinder head spring seat (no barrel springs). Screw in studs and guide plates allowed. Larger valve springs may be used, spring seat may be machined to fit larger springs. Stock rocker arms and ratio only, maximum of 1.5 for Chevy and 1.6 for Ford

### **13. Intake Manifold**

Must be: stock cast iron two (2) barrel intake, or an Edelbrock Performer Series Second generations only - part # Chevy 2101, Chrysler #2176, Ford #2750, or W#2181. No Alterations allowed. No older manifolds permitted.

### **14. Engine Tear Down**

The track has the right at any time to tear down an engine. Failure to cooperate with the official request will result in the loss of all money and points earned during that race meet and suspension can be given.

### **15. Exhaust**

Exhaust must exit under and behind driver and outside body sheet metal. Stock manifolds only. Maximum diameter of exhaust pipe to be 3" OD. No collector boxes. No "X" pipes. Pipes must be dual exhaust front to back and firmly mounted and cut flush to the body. No ram horn manifolds. No turn down exhaust. Exhaust pipes must exit outside of the right side door no more than 17" ahead of the rear tire. Mufflers are required  
-spec headers are allowed, 1-5/8" primary tube with no step permitted only:

Schoenfeld - #185, #185CM, #165, #165A, #165ACM  
 DYNATECH- #01-21900, 01-21910, 01-20900, 01-20910  
 Or/Cross over type

Shoenfeld part # Chev 135CM, 135HCM, 145CM, Dodge #445 & Ford 335

**16. Fire Walls**

Front fire wall may be fabricated using a minimum of 22 gauge steel in stock location. With all holes covered with sheet metal either welded or riveted. No metal screws allowed.

**17. Fire Control**

Cars must have an approved fire extinguisher mounted in an approved mounting bracket and within drivers reach, with seat belts fastened. (Must be tagged and have a gauge). Fire suit is mandatory.

**18. Floor**

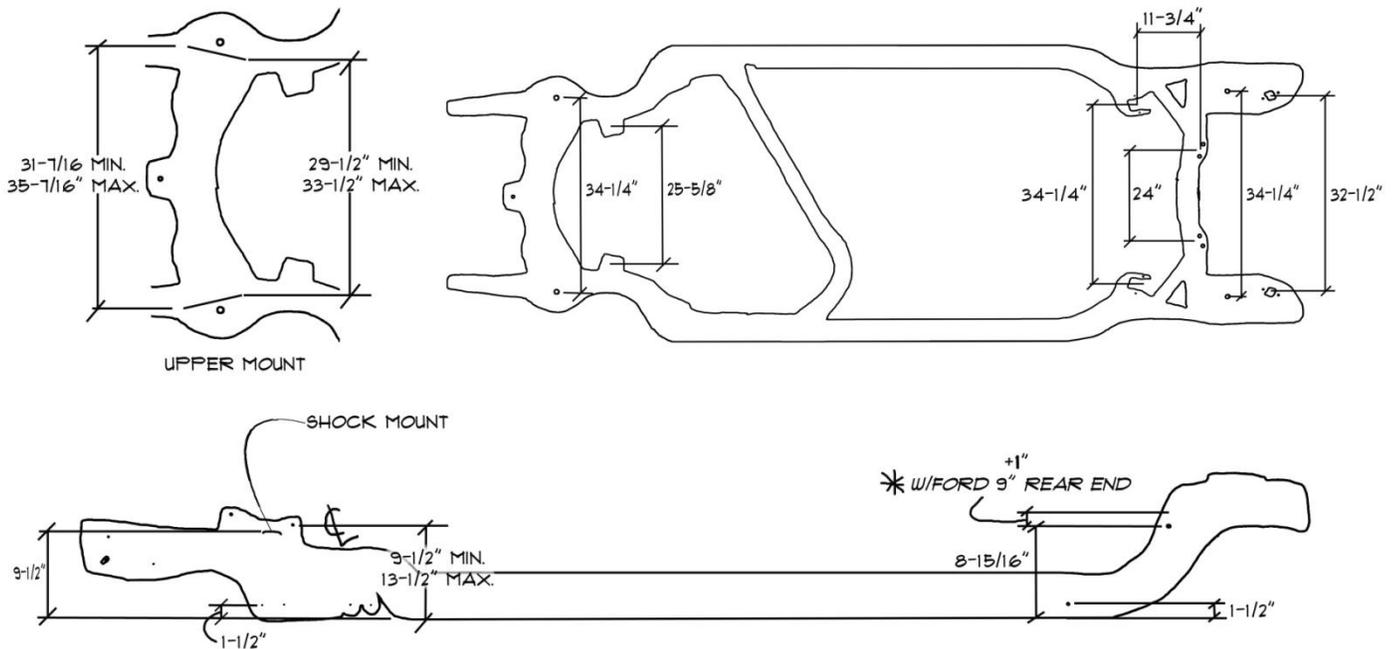
Must be in original location, and may be replaced with minimum 18 gauge steel. All holes must be covered with sheet metal. Right side floor may be removed and stepped up 10" with a minimum of 22 gauge steel only.

**19. Frame**

Stock steel frame must be stock, with no holes drilled for lightning purposes. Center section of frame may be "X" reinforced. Rear clip may be fabricated. Must retain rear shocks, spring or trailing arm mounts in stock location will be checked using portable measuring device. Unibody cars are allowed, must have leaf springs. Front leaf spring mounts must be stock and stock location.

An approved fabricated frame is permitted to be used as produced from the manufacturer. Contact the speedway for the approved chassis.

**GM "METRIC" CHASSIS**



**20. Fuel**

Petroleum based unleaded fuels only. The gasoline shall not be blended with alcohols, ether or other oxygenates and it shall not be blended with aniline or its derivatives, nitro compounds or other nitrogen containing compounds. No lead additives or NOS systems.

**21. Fuel Pump:** Stock Mechanical pump only. No electric pumps.

**22. Fuel Cell**

Fuel cell is mandatory. Must be in steel box made of a minimum of 22 gauge steel. Fuel cell must be mounted between the frame rails (no notching of the rails allowed) and the bottom must be mounted no lower than the bottom of the rear axle tube. Fuel cell must be secured with steel straps made of 1" x 1/8", not less than two lengthwise and two cross wise, full 360 degree. Fuel cell must have left side and rear hoop protection bars, minimum 1 3/4" x .095 tubing. Fuel cell must have a one way check valve in vent line. No vented gas caps permitted. Gas cap must have an appropriate attaching line to prevent its loss. Cell must be vented out the rear tail section of the car. A ground strap from the frame to the cell is mandatory.

**23. Ignition**

12 volt stock type ignition system only. No aftermarket systems. Stock starting systems must be functional. Ignition systems may be interchanged between years and manufacturers.

**24. Interior**

Steel tin kits are allowed. Steel must be welded or riveted. No screws allowed. All flammable material must be removed. No loose objects allowed in race car. Rear fire wall may be fabricated in stock location, minimum 22 gauge steel. Right side floor may raise a maximum of 10" only - measured from the top of the frame rail. Crush Panels may be aluminum (crush panel is any filler panel outside the "A" pillar to rear braces)

**25. Painting and Lettering**

All cars must be neatly painted. Numbers assigned by the track must be painted on both doors and roof in minimum 24" high by 3" wide. (read from left to right side) of a color offering distinct contrast to car color. No foil numbers. No trick numbers. 4" numbers on head lamp and tail lamp assemblies mandatory. Block type numbers 6" high, white in color, must be displayed on the upper right hand side of windshield.

**26. Radiator**

Must be or resemble O.E.M. must be in stock location and include a one gallon metal overflow can mounted ahead of engine fire wall. No antifreeze allowed in cooling systems. Pressure release caps are recommended. Aluminum radiators may be used.

**27. Rear Ends**

No rear sway bars allowed. Only stock passenger rear ends. No quick changes or quick change adapters of any kind. If integral type, horseshoe clips must be welded, so that axle will not fall out. Gears must be locked, no limited slip differential of any type permitted, no aluminum spools, but must remain in stock location. Ford 9" rear ends permitted. It is your responsibility to ensure the straightness and integrity of the drive axles, no gun drilled axles. In the interest of safety, floater rear ends will be permitted. Cambered rear ends will not be permitted. **No aluminum carriers**

**28. Roll Bars**

Cage must be constructed of 1 3/4" minimum outside diameter by .095" wall thickness round steel tubing. Four point cage compulsory. Base of uprights must be welded to frame of car. Cage must be braced to the rear frame kick-ups and diagonally between the rear uprights. A transfer bar between the rear diagonal and the front frame optional. A minimum of four horizontal bars must be inside the left side door and three bars inside the right door and a minimum of two vertical upright bars between each horizontal bar. Minimum 40" length by 17" high, 16 Gauge metal between door bars and body skin on drivers side is mandatory. On a unibody car the roll cage uprights must be welded to 12" x 12" x 3/16" steel plates that are formed and welded to floor pan. In a unibody car the rear upright bars must be connected by a side to side member just above floor pan. All welds must be electric or MIG and will be subject to the approval of the tech inspectors. No pipe fittings allowed. All roll bars in the drivers area must be properly padded and taped. Drivers door bars must be sealed between each rail from top to bottom with 18 gauge sheet steel minimum. The upper roll cage bars must not be any lower than the top window opening.

**29. Seat Belts / Harnesses / Helmet**

Must be securely fastened to the frame and/or roll cage with grade 8 bolts of a minimum of 3/8". A 5 point racing harness

is mandatory. **A Snell 2010 SA approved helmet or newer is mandatory.** A complete drivers fire suit must be worn in all practice and race events and until car is parked in pit area. Fire proof gloves, neck collar, balaclava, underwear, socks, and shoes are recommended, no nylon shoes allowed.

### 30. Seat

Aluminum racing seat is mandatory. Seat must remain in stock location, bolted or welded to roll cage, (no bolting seat to floor) between roll cage and left front frame rail. All welds must be electric arc or MIG and will be subject to the approval of the tech inspectors. Seat must be positioned completely to the left of the center line of the car. An approved head restraint should be made of some energy absorbing material.

### 31. Tires

All entries must use Spec tire #TBD. No doping, no softening.

**32. Transmission:** An automatic transmission. Must be original O.E.M. stock 3 speed, no modifications to transmission. Stock torque converters (no modifications allowed) 10", 11" or 12" converters may be used. A 10", 11" converter will weigh no less than 25lbs wet and a 12" converter will weigh no less than 40lbs wet. Transmission coolers allowed. All gears must be operational. No high stall torque converters.

#### 32.a - Standard Transmission, Flywheel & Clutch Assy.

Any manual stock OEM Steel 3 or 4 speed transmission permitted.

Stock type (spring loaded) steel single disc clutch and flywheel units must not be drilled or machined.

Stock type clutch and pressure plate, minimum 10" diameter.

Aftermarket clutch pedal allowed.

No puck type & aluminium discs.

Nodular or steel flywheels only.

Minimum flywheel weight of 14 lbs.

Must have an NHRA steel bell housing, Sema 6.1 flywheel shield or scatter shield of ¼" steel.

Must be mounted over the clutch and flywheel 360 (bottom may be removed for inspection purposes) degrees between the bell housing and the floor.

No scatter shield inside the car permitted.

If there is no inspection plate on the bell housing, you may be required to remove the transmission for clutch inspection.

The flywheel/clutch assembly shall weigh no less than 30lbs.

**Mandatory** ½" hole in bell housing for turning flywheel when whistling

### 33. Weight

Cars will be weighed with driver.

**Total car weight with a built motor minimum of 2,925 lbs**

**Total weight with a crate motor minimum of 2,900 lbs.**

Penalty weights:

-three speed automatic	-subtract 50lbs.
-fiberglass bodies	see details below
-headers	-add 150lbs.
-two piece hub rotor assembly	-add 30lbs
<b>-dual master cylinders(same bore dia.)</b>	<b>-add 40LBS.</b>

Maximum left side weight is 55%. Maximum rear weight of 50%. All added weight must be securely fastened (See tech) above top of frame rails. Weight mounting must be approved by tech. All weights must be painted white and numbered with your car number and must use self locking nuts or drilled and wired, on mounting bolt.

Fiberglass bodies must install 50 lbs with no portion of the weight less than 18" from the ground, at ride height. The Speedway reserves the right to add or subtract weight to ensure competitive racing.

### 34. Wheels

All cars must use a minimum 5/8" wheel studs on right side of car. A maximum width of 8". No aluminum, mag, offset or homemade wheels allowed. Racing rims must be used on right side.

**35. Windshield and Windows**

All windows must be removed except full front windshield. Windshield may be safety glass, lexan or marguard, minimum 1/8” material. 4 safety tabs mandatory. Driver’s window net mandatory, must have top release, minimum 3/8” rod. Center windshield bar required (1 3/4 roll bar) from the top of windshield roll bar to dash or floor mount securely, in the center of windshield opening. No decal's on rear windows.

**36. Mirrors:** One mirror is permitted, a convex 3” max diameter allowed on the driver’s side a-pillar, unless the driver is using an approved head and neck restraint system (Hans, Hutch, Defender) then a rear view mirror is permitted as well.

**37. Gear Rule:** Final drive ratio may not exceed 6:90

**38. Two way radio** communication will be permitted, you **must** advise the Speedway of your frequency prior to the event.

<b>2016 Thunder Car</b>		<b>Sauble Speedway Inc. 2016 Thunder Car</b>	
<b>Feature Pay Out</b>		<b>To be eligible for nightly points the division banner must be on top of windshield.</b>	
		<b>2016 Thunder Car Top Ten Points Fund</b>	
1st	\$400.00	1-\$ 800.00	<b>Drivers will be presented with:</b> - Top Ten - Rookie of the Year - Most Sportsman like Driver - Best Appearing Car
2nd	\$350.00	2-\$ 500.00	
3rd	\$300.00	3-\$ 400.00	
4th	\$250.00	4-\$ 300.00	
5th	\$200.00	5-\$ 250.00	
6th	\$150.00	6-\$ 200.00	
7th	\$100.00	7-\$ 175.00	
8th	\$90.00	8-\$ 150.00	
9th	\$80.00	9-\$ 125.00	
10th	\$75.00	10-\$100.00	
11th	\$70.00		
12th	\$70.00		
13th	\$70.00		
14th	\$70.00		
15th	\$50.00		
16th	\$50.00		
17th	\$50.00		
18th	\$50.00		
19th	\$50.00		
20th	\$50.00		
21st	\$50.00		
22nd	\$50.00		
23rd	\$50.00		
24th	\$50.00		

**Attention Thunder Cars Please Read Rule Book Disclaimer, which is located in General Track Rules**