

MOTORCYCLE OVERVIEW

(This overview is general and does not supersede any class rules)

Motorcycle records are kept in 6 Categories:

- 1) **OHC (Overhead Cam)**
- 2) **Pushrod**
- 3) **2-Stroke**
- 4) **Twins (Single and twin cylinder)**
- 5) **Classic (1956-1986 inclusively)**
- 6) **Electric**

Motorcycle Records are comprised of three components:

- 1) **Motorcycle Class.**
- 2) **Engine Type**
- 3) **Engine Displacement/Voltage**

For example: MPS/CBG-1350/4

Class – Modified Partial Streamliner

Type – Classic Blown Gas

Size - 1001 - 1350cc. /4 stroke.

CHASSIS AND BODY DESCRIPTIONS**PRODUCTION (P)**

- A: The spirit of the Production Class is designed for motorcycles that are showroom stock IN APPEARANCE.
- B: MOST engine components must be OEM for the model.
- C: Changes to the fueling system, engine, air intake, computers and exhaust system that are not apparent to exterior view are permitted.
- D: Aftermarket exhaust systems are NOT allowed.

MODIFIED (M)

- A: The modified class is for motorcycles BASED on production models.
- B: No aerodynamic aids on the front. Commonly referred to as "NAKED".
- C: Removal of the front fairings is generally all that is required. (see rules.)
- D: Modifications to the other bodywork is limited.
- E: Modifications to the engine, swing arm, gas tank, foot pegs are allowed but not required.

MODIFIED PARTIAL STREAMLINER (MPS)

Same as Modified(M) with:

- A: Aerodynamic aids allowed per rules.
- B: Most modern sportbikes with a "chip and can" fall into this class.
- C: Custom bodywork is allowed as defined in the rules.

ALTERED (A)

- A: Altered is for specially constructed and purpose built race bikes.
- B: INNOVATIVE AND UNIQUE DESIGN IS ENCOURAGED.
- C: Aerodynamic front fairings are not allowed.
- C: May use 1 or 2 engines of any design.

D: May use non-motorcycle engines. (PRIOR APPROVAL REQUIRED)

ALTERED PARTIAL STREAMLINER (APS)

Same as Altered(A) with:

- A: Aerodynamic fairings allowed. The rider must be visible per the rules.

B: Modified Class motorcycles with custom APS fairings fall into APS.

C: May use 1 or 2 engines of any design.

D: May use non-motorcycle engines.

SIDECAR (SC)

A: Modified or Altered class motorcycles with a sidecar attached.

B: Riders are not permitted.

C: There is no Production Sidecar class.

STREAMLINER (S) AND SIDECAR STREAMLINER (SCS)

A: Motorcycles like the World's Fastest Indian are no longer allowed.

B: Extensive design and construction required.

C: Roll cage, fire suppression, driver restraints, fire suit, etc. required.

D: May use 1 or 2 engines of any design.

E: May use non-motorcycle engines. (PRIOR APPROVAL REQUIRED)

ENGINE TYPE DESCRIPTIONS

MOTORCYCLE ENGINE DEFINITION

A: Engines originally designed for use in motorcycles.

B: One off or purpose built engines designed specifically for LSR motorcycle racing. Must be comprised mainly of motorcycle engine components or components specifically designed for the application. (Drawings and engineering data may be required.)

C: Engines originally designed for motorsports vehicles that were also offered in motorcycles in a volume of 500 units.

NON-MOTORCYCLE ENGINE DEFINITION

A: Engine originally designed for automobiles or non-transportation purposes.

B: Automobile engines later offered in motorcycles by OEM or third-party manufacturers. (Prior approval and design data is required.)

C: Motorsports engines not sold in motorcycles in a volume of 500+ units.

PRODUCTION – For all engine classes below in Production Chassis.

Production engines must be the same model as the model of the frame being used and must have STOCK EXTERNAL APPEARANCE. Production motorcycles must use OEM cylinders, heads and crankcases to comply with this class. OEM engine displacement determines the displacement class for competition. Displacement may not be increased beyond that class limit. See Section 7.D.3. Starting mechanism must be retained and operable. Carburetors or throttle bodies must be OEM for that model production engine. ALL PRODUCTION ENGINES RUN IN GAS (G) CLASS.

VINTAGE – (V) For all Engine Classes except Classic.

Limited to motorcycle engines produced prior to 1956.

2-STROKE (/2)

Defined as an engine operating in a 2-cycle fashion.

A: Motorcycle Engines Only - Production and Modified Frame Classes.

B: Any 2-Stroke Engine – Altered Frame Class. (Approval required.)

C: Extensive design and modification of engine allowed.

OHC

An engine with overhead cam operated valves as defined below.

The camshaft location must fall within the following limitations:

- A: Above the valve train.
- B: No more than one crankshaft stroke below the OEM cylinder deck position.
- C: Pushrod length less than twice the crankshaft stroke. (BMW air/oilhead.)
- D: Extensive design and modification of engine allowed
- E: Motorcycle Engines Only - Production and Modified Frame Classes.**
- F: Any Engine - Altered Frame Class. (Approval required.)**

PUSHROD (P)

Any engine with push rod operated valves as defined below.

The camshaft location must fall within the following limitations:

- A: At least one crankshaft stroke below the OEM cylinder deck position.
- B: OEM pushrod length at least twice the crankshaft stroke.
- C: Replacement heads must have the same number of valves as originally produced **for engines of the same series.**
- D: Extensive design and modification of engine allowed.
- E: Motorcycle Engines Only - Production and Modified Frame Classes.**
- F: Any Engine - Altered Frame Class. (Approval required.)**

TWIN (T)

Any 4-stroke single or twin cylinder engine:

- A: Pushrod and OHC engines (as defined above).
- B: Any cylinder angles between 0 – 180 degrees for twins allowed.
- C: Extensive design and modification of engine allowed.
- D: Motorcycle Engines Only - Production and Modified Frame Classes.**
- E: Any Engine - Altered Frame Class. (Approval required.)**

CLASSIC (C)

Any 4-stroke air cooled motorcycle engine: MOTORCYCLE ENGINES ONLY.

- A: Manufactured between 1956 and 1986 inclusively.
- B: Extensive design and modification of engine allowed.
- C: Alteration of cooling fin design, size and placement is allowed.
- D: Any system designed to enhance cooling is not permitted. (This includes, but is not limited to water injection, nitrous oxide or water spray systems, radiators, enlarged oil capacity or modified oil systems.)
- E: Fuel delivery may be modified or upgraded but OEM carbureted bikes must remain carbureted.
- F: OEM fuel injection may be retained, modified or replaced by carburetors.
- G: No non-OEM engine management allowed.
- H: One distributor or magneto allowed.
- I: Computers are allowed for data collection purposes only.

Electric (E)

Electric is defined as propulsion via electric motors only.

- A: Hybrid or ICE generators used to power electric drive motors not allowed.
 - B: Single or Dual hub motors allowed in all classes.
 - C: Dual drive motors allowed in Altered class only.
- Electric power shall be designated in the LTA records as a fuel class:
i.e. M/E-48 = Modified/Electric – 48 volt.

7.A GENERAL REQUIREMENTS

7.A.1 Rider's License:

Competitors 18 and over with valid state or military driver's license and motorcycle endorsement are allowed to compete.

7.A.2 Event Procedures:

Speed Trials operating procedures shall be the same as Section 1.

7.A.3 Reserved:

7.A.4 New Race Vehicles:

It is strongly recommended that all new Altered and Special Construction class vehicles be submitted for a pre-event inspection by the Board. If not practical because of distance, photographs and drawing may be submitted. **All non-motorcycle engine vehicle in ALTERED must receive pre-approval.**

7.A.5 Reserved

7.A.6 Engine:

Engine shall be defined as the primary propulsion unit of the motorcycle. This includes ICE and Electric Motors.

7.A.7 Rider Position:

Any reference to "Rider" location will be as follows:

Forward of the rider is defined as any area from the most forward edge of the motorcycle to the silhouette of the rider as viewed from the side, excluding the hands and arms. Behind the rider is defined as any area from the most rearward edge of the motorcycle to the silhouette of the rider as viewed from the side.

7.A.8 OEM/Original:

The term "OEM" or "original" is defined as a manufacturer's original equipment for the particular make, model and year of the motorcycle.

7.B MOTORCYCLE TECHNICAL REQUIREMENTS:

7.B.1.0 Number/Classes:

All entries must have the number and class on each side of the motorcycle, and the number and class must be clearly visible with the rider seated and must contrast with the background on which they are applied. The number/class may be located directly on the bodywork or a number plate.

Number plates shall have a minimum dimension of 6" high by 8" wide and maximum dimension of 10" x 12" with a minimum corner radius of 1".

Number plates must be securely mounted and be located forward of a vertical line and above a horizontal through the rear axle.

All entry numbers must be a minimum of 3 in. high and 1 in. wide.

All class designation characters must be at least 1 in. high.

7.B.1.1 Unsafe Motorcycle:

If a Tech. Inspector or the Chief Starter judges a motorcycle unsafe it will not be allowed to compete.

7.B.2 Shut-off Requirements:

7.B.2.1 Engine Stop Switch:

All motorcycles must have a positive-off kill switch that is able to stop a running engine, remain shut-off once activated, and be operated without removing the rider's hands from the handlebar grips. **Electric Classes require traction motor shut off.**

7.B.2.2 Ignition Kill Switch Lanyard:

A: All motorcycles must be equipped with a tether attached to the vehicle and the rider so the engine ignition is shut-off if the rider becomes separated from the motorcycle. **Electric Classes require traction motor shut off.**

B: Metallic ends are required.

C: AN ENCASED METAL CABLE RECOMMENDED.

7.B.2.3 Fuel Pump Stop Lanyard:

If the ignition kill lanyard does not shut off the fuel pump, the motorcycle must be equipped with a tether type shut-off device attached to the vehicle and the rider so the fuel pump is shut-off if the rider becomes separated from the cycle.

7.B.2.4 Gasoline Shutoff:

Gasoline class motorcycles must have a fuel shutoff operable from a normal riding position. A fuel petcock will comply with this requirement if it is within reach of the seated rider. No plastic petcocks or filters allowed.

7.B.2.5 Fuel Shutoff:

Fuel motorcycles must have a fuel shutoff operable without moving the hands from the handlebar grips; with the exception of Nitrous systems with gravity feed which require handle bar shutoff for all but gas tank petcocks.

7.B.3 Fuel Systems:

The complete fuel system shall be well constructed and securely mounted. The fuel fill cap/cover must fit securely. All non-valve portions of fuel or gas lines (including saddle tank crossover lines), must have fire resistant or fireproof connecting lines & fittings. Aero/quip fire sleeve cover meets this requirement. Plastic fuel lines are not permitted, except certified clear fuel lines, clearly marked on the fuel line by the manufacturer as for fuel application. A metal clamp shall be on each connection of flexible fuel line. Nitrous Oxide cylinders or any other type of oxidizer cylinder are considered the same as fuel tanks.

7.B.3.1 Fuel Types:

GAS (G) The addition of a power additive or changes of any nature (other than oil designated for lubrication only) to GASOLINE is prohibited. Penalty for violation of this standard shall be disqualification. See Sec. 2.C.

Fuel (F) In fuel classes, any approved liquid fuel may be used, see Sec. 2.C.

Electric (E) Electric is defined as electrical energy stored in batteries.

See Section 7.J for Electric Rules.

7.B.3.3 Alternate Fuel: (LTA & ECTA ONLY)

Any motorcycle, regardless of engine size; normally aspirated or blown, runs on non-production pump fuels. Examples include: bio-diesel, peanut oil, soybean oil, propane hydrogen etc.

7.B.3.4 Nitrous Oxide Systems:

Nitrous Oxide bottles and lines are considered a part of the fuel system and governed by all fuel system requirements. Nitrous Oxide bottles shall be securely mounted. Bottle mounting by hose clamps alone is not sufficient. Vehicles with Nitrous Oxide systems shall be visibly identified as such and the

location of the bottle(s) shall be clearly indicated. The Nitrous Oxide bottle(s) must be removed when competing in Gasoline classes.

The nitrous oxide bottle pressure relief valve shall be vented away from the engine and rider, if located in an enclosed and sealed area, and shall be vented to the outside by a rigid line.

Nitrous oxide systems should be equipped to shut-off the nitrous oxide solenoid if the rider becomes separated from the motorcycle. N.O. cylinders may not be heated by an open flame.

7.B.4 Cooling System:

Any combustible or flammable coolants are strictly prohibited.

7.B.5 Batteries:

All batteries shall be properly secured with metal hold downs, framework and fasteners. Plastic tie-downs are not allowed. OEM battery hold-downs may not be adequate.

7.B.6 Wheels:

Wheels must have a minimum nominal diameter of 15 in., except in the Sidecar and Streamliner classes. It is highly recommended that strict attention be paid to wheel alignment, wheel balance, spoke tension and tire run-out. Non-cross ventilated front wheels are not allowed except in the sidecar and streamliner classes if the wheel is fully enclosed by the body work. It is REQUIRED that front wheels be cross ventilated by an area equal to at least 25% of nominal rim circle area. Non-cross ventilated rear wheels are allowed. Wheel disc may be installed on the rear wheel only and must be installed in a secure workmanship type manner. Installation methods will be closely scrutinized.

7.B.7 Wheel Retention:

All axles retaining nuts must be safety wired or otherwise secured by visually verifiable means. Lock washers, self-locking nuts or thread locking compounds do not meet this requirement.

7.B.8 Valve Stems and Caps:

All tire valve stems must be fitted with metal valve caps. Over 175 MPH, tubeless tires must use metal valve stems. Tube type tires with rubber valve stems that are angled relative to the rotational plane of the wheel must have those valve stems secured to resist centrifugal force deflection. Safety wire or other approved restraining device is required.

7.B.9 Tire Requirements:

- A: All motorcycle entries, must use tires with an appropriate speed rating.
- B: The required speed rating is governed by the record speed in the class.
- C: All competitors going over 187 MPH must sign the tire waiver form.
- D: IT IS THE RESPONSIBILITY OF THE ENTRANT TO CHECK INFLATION PRESSURES AND TIRE AND WHEEL FOR DETERIORATION OR DAMAGE IMMEDIATELY BEFORE AND AFTER EVERY RUN.
- E: Tires rated H CANNOT be used beyond the speed rating.
- F: All production tires rated V, Z or ZR must have been produced within the last ten years as of the date of the current event.
- G: Sidewall date coding will be checked.
- H: Tubeless, bias ply type tires may be run with tubes.
- I: Tires designed for use on the drive wheel in drag bikes are not be allowed.

- 0 to 70 MPH Any tire designed for motorcycle use is permitted.
- 71 to 130 Production tires with a speed rating of H or higher.
- 131 to 150 Production tires with a speed rating of V or higher.
- 151 MPH+ Production tires with a rating of ZR or special tires for racing as designated by the manufacturer. Production tires with a rating of V, if shaved, can be used up to 200 MPH.
- 200 MPH+ Experience has shown that using tires with hard rubber compounds and reducing the tread thickness by 2/3 by carefully shaving the tread provides the best results.
- 265 MPH+ Contestants must use LSR or racing tires rated for speeds higher than the class record. Any tire deviation must be submitted to the Board, with sufficient data to justify a deviation, in writing at least 45 days prior to the meet.

7.B.10 Brakes:

Rear brakes are required and must be an internal expanding drum type or disc brake. Actuation may be from a foot pedal or handlebar lever. Front brakes are required over 175 MPH (LTA & ECTA ONLY). Regenerative breaking on Electric motors is allowed.

7.B.11 Handlebars:

Handlebars must be made of steel, aluminum, titanium or other material approved by the Board.

7.B.12 Throttle:

A self-closing throttle must be fitted to all motorcycles.

7.B.13 Controls:

Control levers must have at least a 1/2 in. diameter round ball end. The handlebars must locate the hands outside the width of the fork tubes (6 in. minimum). It is suggested that the configuration of the handlebar(s) locate the thumbs at least 10 in. apart. An entrant may be required to demonstrate low speed handling and stability to meet this requirement. Fork stops must stop fork travel before the hands touch any other part of the motorcycle. No decorative bar ends or pegs.

7.B.14 Chassis & Steering:

All motorcycle entries must use handlebars for steering control. All moving parts of the steering system shall operate freely without excessive play. It is recommended that all steering system components be visually inspected on a frequent basis.

Fork stops must stop fork travel before the hands touch the tank or fairing. If a hydraulic steering damper is used, the rod shaft (or piston) may not be used for the fork stops.

A functional shock absorber is required for each sprung wheel, except girders.

7.B.15 Steering Damper:

Required in all classes over 125 MPH.

7.B.16 Chain Guard:

All chain or belt driven motorcycle entries must be equipped with a steel or aluminum chain or belt guard. If the guard is made of steel it must be at least 3/32 in. thick, or if aluminum, at least 1/8 in. thick. Guards must be securely

mounted in at least two places. The top run must be at least 1-1/2 times the overall width of the chain or at least 1/4 in. wider than the belt.

The chain/belt must be guarded from the center of the front sprocket to the rear most edge of the rear sprocket measured vertically. Primary drives or exposed clutches must also have a side cover to prevent rider from getting entangled. OEM chain guards may not be adequate.

7.B.17 Headlight and other lens:

All glass lenses must be taped to retain breakage. On headlights, the tape is limited to the glass lens. To avoid heat buildup, lamps may be rendered inoperative.

7.B.18 Windshields/Windcreens:

All windshields and windcreens shall be made of shatter resistant plastic, such as polycarbonate (Lexan).

7.B.19 Mirrors:

Must be removed unless integrated into the fairing. The glass in the integrated mirrors may be taped or removed.

7.B.20 Seat and Saddle:

No part of the seat or saddle or anything to the rear of these may be more than 42 in. above the ground when the motorcycle is loaded. Exception: OEM configuration in Production classes only unless permitted by class rules.

7.B.21 Foot rests:

Footrests must be provided as per requirements of the class entered and the rider must use them during the entire run. Foot controls must be operable with feet on the footrests. Only one set of rests is allowed.

7.B.22 Exhaust:

All exhaust system outlets must be directed away from rider, the rear tire and the course surface.

7.B.23 Ballast:

Ballast may be used in all categories. All ballast must be located ahead of the rear axle (except Sidecars and Streamliners). Ballast mounting tabs can extend past the axle. Ballast shall be securely mounted, i.e. bolted to the frame structure. The use of hose clamps, wire, strapping, tape, and tie wraps, etc. for securing weight or ballast is prohibited. Ballast shall not be used to streamline the vehicle. Visible ballast is not allowed in Production classes.

7.B.24 Tow Starts:

Dead motor tow starts permitted for Streamliners only.

7.C RIDING APPAREL:

All motorcycle riders are required to use the following riding equipment, except where clearly inconsistent with Streamliner rules.

7.C.1 Rider's Helmet:

A: All drivers/riders must wear a full-face helmet with face shield.

B: Helmets will be certified to the end of their SNELL lifecycle.

C: Helmets will be visually inspected each meet to determine that it is undamaged and in serviceable condition. Any issue will result in removal of the certifying decal and possible disposal.

- D: A Snell Foundation tag reading Snell M2005 or SA2005 (FIA 8860-2004) or M2010 or SA2010 (FIA 8860-2010) is required.
- E: Snell rating label change from 2005 to 2010 will occur in 2016.
- F: Riders must demonstrate proper helmet fit and "roll off" resistance.
- G: Motorcycle streamliners, require SA rated helmets.
- H: Eyeglasses worn under the helmet must be shatterproof.

7.C.2 Leathers:

- A: Leathers suitable for the application are required.
- B: One-piece suits or two-piece suits zippered together are allowed.
- C: Required over 175 MPH:
 - 1: One piece or two-piece leathers with full (270 degree) zipper.
 - 2: Special protective armor, with a minimum of coverage at elbows, knees, shoulders, hips and back.
 - 3: Undergarments having the required armor coverage are acceptable.
 - 4: Full spine protection in required. Aerodynamic humps will not meet spine protection requirement.
- D: Perforated leathers and leathers with vents are allowed. Vents must be in place and zippered shut.

7.C.3 Boots:

Zipper, buckle or lace up leather boots of substantial construction are required and must be at least 8 in. high.

7.C.4 Gloves:

Leather gloves are required. No perforated or skeleton gloves are permitted.

7.D MOTORCYCLE CLASS GUIDE:

7.D.1 Frame Classes

- P Production
- M Modified
- MPS Modified Partial Streamlining
- A Altered
- APS Altered Partial Streamlining
- SC Sidecar
- S Streamliner
- SCS Sidecar Streamliner

7.D.2 Engine Displacements:

Engine Sizes are shown in cubic centimeters (cc):

<50, 100, 125, 175, 250, 350, 400, 500, 650, 750, 1000, 1350, 1650, 2000, 3000, 3001+ are permitted.

Electric Sizes are rated by the voltage supplied to the drive motors (v):

<24, 48, 72, 96, 120, 144, 168, 192, 240, 300, 348, 349+

7.D.3 Engine size overbore/over voltage:

Displacement must be greater than the maximum allowable for the next lower class. To permit minor reconditioning of worn cylinder blocks in classes other than Production, it is permitted to increase cylinder bore diameter .020 in. (.508 mm) beyond that which provides maximum displacement for the class. In all cases, exceeding the overbore size moves the engine to the next higher

class. The .020 in. (.508 mm) will be discounted for record certification and will be noted on the certification card and in the logbook.

Vintage engines are allowed +.050 in overbore, see 7.D.4.17.

Electric motors are allowed a 10% over voltage measurements.

7.D.4 ENGINE CLASSES:

7.D.4.0 Engine classes all fall into various combinations of induction method and fuel source defined below:

(G) GAS is defined as gasoline purchased at the event from the fuel vendor or brought to the fuel vendor in a sealed container for the vendor to impound and dispense (\$20charge). The tank is to be inspected and the fuel is sealed in the tank by fuel vendor. See section 2.B.

(F) FUEL is defined as any fuel source not purchased from the fuel vendor. Event Gas may also be run in fuel class by simply changing classes from Gas to Fuel. Any oxidizer such as Nitrous Oxide is also considered Fuel.

(B) Blown is defined as an engine to which a supercharger or turbocharger has been added that is mechanically or exhaust gas driven and must pressurize the intake system above atmospheric pressure.

ENGINE CLASSES FOR PRODUCTION CLASS MOTORCYCLES

7.D.4.1 Production (P):

Production engines must be the same model as the model of the frame being used and must have STOCK EXTERNAL APPEARANCE. Production motorcycles must use OEM cylinders, heads and crankcases to comply with this class. OEM engine displacement determines the displacement class for competition. Displacement may not be increased beyond that class limit. See Section 7.D.3. Starting mechanism must be retained and operable. Carburetors or throttle bodies must be OEM for that model production engine. ALL PRODUCTION ENGINES RUN IN GAS (G) CLASS.

7.D.4.2 Production Blown (PB):

Same as Production (P), but an original brand factory installed turbocharger or supercharger is required.

7.D.4.3 Production Push Rod (PP):

Same as Production (P), but must have pushrod operated valves with camshaft located at least one crankshaft stroke below the OEM cylinder deck position or utilize OEM pushrod length at least twice the crankshaft stroke.

7.D.4.4 Production Twin (PT): (LTA ONLY)

Same as Production (P) for single and twin cylinder engines only. Pushrod and OHC engines with cylinder angles of 0 – 180 degrees allowed.

7.D.4.5 Production Blown Twin (PBT): (LTA ONLY)

Same as Production Twin (PT) with an original brand factory installed turbocharger or supercharger required.

7.D.4.6 Production Classic (PC): (LTA ONLY)

Same as Production (P) for 4-stroke air cooled engines manufactured between 1956 and 1986 inclusively.

7.D.4.7 Production Vintage (PV):

Same as Production but must have been produced prior to 1956.

7.D.4.8 Production Electric (PE):

Same as Production for Electric Motorcycles. Non-OEM controllers not allowed.

ENGINE CLASSES FOR MODIFIED AND ALTERED MOTORCYCLES

LTA ONLY - The LTA is removing the restriction that motorcycles must be comprised of major parts and components designed primarily for use in motorcycle engines from Altered (A & APS). It is required that prior approval be obtained for ALL non-motorcycle engine powered vehicles.

7.D.4.7 Gas (G):

Unlimited in design and modification. Restricted to gasoline sold at the event and sealed in the tank by an official. See section 7.D.4.0

7.D.4.8 Fuel (F):

Unlimited in design and modification. No restrictions on fuel. See section 7.D.4.0.

7.D.4.9 Blown Gas / Fuel (BG) and (BF):

Same as (G) and (F) respectively with a supercharger or turbocharger required per 7.D.4.0. Water injection is allowed, but water tanks must be inspected and sealed prior to running in Gas Class.

7.D.4.11 Push Rod Gas / Fuel (PG) and (PF):

Any motorcycle engine with push rod operated valves as defined below.

Subject to the same limitations as Classes G and F, respectively.

The camshaft must be located at least one crankshaft stroke below the OEM cylinder deck position or that utilize OEM pushrod length at least twice the crankshaft stroke. Replacement heads must have the same number of valves as originally produced as a production engine.

7.D.4.12 Pushrod Blown Gas / Fuel (PBG) and (PBF):

Same as (PG) and (PF) above, with a supercharger or turbocharger required; subject to the same limitations as Classes (BG) and (BF) respectively.

7.D.4.13 Twin Gas / Fuel (TG) and (TF):

Any 4-stroke motorcycle engine with 1 or 2 cylinders. Unlimited in design and modification. Pushrod and OHC engines with cylinder angles of 0 – 180 degrees allowed.

Subject to the same limitations as (G) and (F) respectively.

7.D.4.14 Twin Blown Gas / Blown Fuel (TBG) and (TBF):

Same as Section (TG) and (TF) above with a supercharger or turbocharger required. Subject to the same limitations as Classes (BG) and (BF) respectively.

7.D.4.15 Classic Gas / Fuel (CG) and (CF):

Any air cooled motorcycle engine manufactured between 1956 and 1986 inclusively. Extensive design and modification of engine allowed. Alteration of cooling fin design, size and placement is allowed. Any system designed to enhance cooling is not permitted. (This includes, but is not limited to water injection, nitrous oxide or water spray systems, radiators, enlarged oil capacity or modified oil systems.)

Fuel delivery may be modified or upgraded but OEM carbureted bikes must remain carbureted. OEM fuel injection may be retained, modified or replaced by carburetors. No non-OEM engine management allowed. One distributor or magneto allowed. Computers are allowed for data collection purposes only.

7.D.4.16 Classic Blown Gas / Fuel (CBG) and (CBF):

Same as (CG) and (CF) above with a supercharger or turbocharger required.

7.D.4.17 Vintage Gas / Fuel (VG) and (VF):

Same as Class G or F, except that the class is limited to motorcycle engines produced prior to 1956.

For reasons of historical authenticity, vintage engine modifications are restricted to older technology levels as far as practical. Accordingly, in classes VF, VG, VBF and VBG newer technologies such as EFI, or electronic reactive ignition systems are not in keeping with the spirit of the Vintage classes and are not allowed. Computers are allowed for data collection purposes only.

Engines must utilize OEM crankcase, OEM cylinders on flatheads and two strokes and OEM heads on OHV engines. Above components made after 1955 and exact reproductions may be considered legal in Vintage classes if they offer no competitive advantage. Pre installation approval by the board is required. It is the entrant's responsibility to provide documentation and samples. A .050 in. overbore is allowed on vintage engines (including production vintage) and will be discounted when the bore size is measured. Flathead engine displacement will be discounted 33 1/3% in determining engine displacement class limits. For example, a 1500cc measured displacement would run as a 1000cc.

7.D.4.18 Vintage Blown Gas / Fuel (VBF) and (VBG):

Same as class VF or VG with a supercharger required. See 7.D.4.0.

7.D.4.19 Electric (E):

Same as class (PE) with unlimited design and modifications allowed.

7.D.4.20 Class Ω / Omega.....(O):

An engine using a thermodynamic cycle other than Otto, **Two Cycle or Diesel**. This class includes steam and turbine engines. Entry must comply with all applicable frame class requirements. Entrant must submit complete power plant details to the technical committee for safety evaluation at least 45 days prior to the meet.

7.D.5 Allowed Engines Per Classes:

Frame Class	Engine Classes	Max Disp.	Max #of Engines:
P	P, PB, PP, PPB, PT, PBT, PC, PV,PE	3000	1
M, MPS	All	3000	1
A, APS	All	3001+	2
S, SC, SCS	All	3001+	2

NOTE: Two cycle engines are limited to 1500cc per engine.

7.D.6 Rotary Engines:

Rotary engines may be included in this subdivision. Example: APS/G-750R.

7.E

MOTORCYCLE CLASSES



7.E.1 PRODUCTION MOTORCYCLES

This class is limited to production, street-legal motorcycles of which 500 or more have been produced and which are available for sale to the general public through retail motorcycle dealers. Motorcycles in this class shall be equipped with full lighting equipment, frame, forks, wheels, brakes, gas and oil tank (if OEM), fenders and seat. The motorcycle must appear identical in all respects to the production model it represents, including the intake air box and exhaust system. The exhaust system, looking at the end (down its centerline) shall be unmodified, i.e. the exit diameter of the canister (muffler) cannot be enlarged. This comparison will be made when the bike is assembled as ready to run. Any performance modifications must be out of view.

Custom painting or decal removal does not violate the production class appearance rule however smoothing, filling, removal of badges, emblems or garnish trim or other physical changes are not permitted. Production class records are subject to approval and will be certified ONLY after comparison with the manufacturer's specifications for the model. The entrant is required to provide suitable documentation substantiating the production design of the entry at the time of the record certification inspection.

THE ONLY MODIFICATIONS WHICH MAY OR MUST BE MADE ARE:

7.E.1.1 **Handlebars:**

Any shape may be fitted OEM handle bar mounts, except handlebars which extend more than 15 in. above, 4 in. in front of, or 4 in. below the OEM handle bar mounts. **Controls and switches must remain OEM.** See Section 7.B.11.

7.E.1.2 **Footrests:**

OEM rider footrests must be used. Passenger footrests and their supporting brackets shall be removed unless integrated into the frame or used for a purpose other than holding the footrest, e.g. muffler bracket.

7.E.1.3 **Side and center stands:**

These may be removed.

7.E.1.4 **Air cleaner element, toolbox, and license plate bracket:**

Air cleaner and toolbox may be removed. License plate bracket must remain.

7.E.1.5 **Number/Class:**

See Section 7.B.1.

7.E.1.6 **Lighting equipment and instruments:**

- C: Factory produced road or off road racing or any other “works” racing models are NOT allowed.
- D: Purpose-built racing bikes are NOT allowed.

The requirements for this class include:

- A: The engine must be from the same manufacturer as the frame.
- B: Classic engine class additionally requires frame to be manufactured between 1956 and 1986 inclusively.**
- C: A single engine with maximum displacement limited to 3000 cc.
- D: Maximum wheelbase of 68”.
- E: Handlebar grips and rider seating position must be above the top of the rear tire with the rider seated, unless original OEM design.
- F: Gas tanks, if not original equipment to the production model, must have a minimum capacity of 5 liters or 1.32 gallons.
- G: OEM lights, instruments, fenders, gas & oil tanks, seat, forks, swing arm, shocks, brakes and wheels are OPTIONAL.

Bikes that meet the requirements for the Modified Class by definition cannot run in Altered Class **unless modified to meet those class requirements.**

7.F.1 Foot rests:

Must be ahead of the rear axle by at least by 6 in.

7.F.2 Optional exhaust systems:

Optional exhaust pipes may not extend behind rear edge of rear **bodywork.**

7.F.3 Number/Class Designation plates:

See Section 7.B.1.

7.F.4 Fenders:

All fenders must be of sufficient strength to resist deflection at speed. Front fender and rear portion of rear fender may be removed or special fenders made and attached in a workmanship-like manner may be fitted.

7.F.4.1 Front Fenders:

Front fender is optional, and if used must comply with the following: front wheel and tire must be visible from either side for a continuous 180 degrees of their circumference. The front of the fender may not extend lower than a horizontal line drawn through the front axle. Perimeter of the fender may not be farther than 1.750 in. from the tire tread on non-OEM or modified fenders. The sides of the fender may fair in the fork tubes or sliders, but may not be over 2 in. wider overall than these parts.

7.F.4.2 Rear Fenders:

Rear fenders shall extend rearward to a point not less than a vertical line drawn through the rear axle. A seat that covers the rear wheel to the vertical line may substitute for the fender requirements. All fenders must be of sufficient strength to resist deflection at speed.

7.F.5 Reserved

7.F.6 Axles:

All axles must be of steel alloy, OEM aluminum or Titanium.

7.F.7 Forks:

Must be of sufficient strength for the motorcycle. Center hub steering or equivalent is not permitted in this class, unless factory produced for the model.

7.F.8 Brakes:

See section 7.B.10.

7.F.9 Chain Guard:

See section 7.B.16.

7.F.10 Engines:

Only a single engine with a maximum engine displacement of 3000cc is allowed. Multiple engines are not permitted in this class.



7.F.11 Modified Class (M):

1. Seat or tail section must conform to Modified Partial Streamliner (MPS).
2. No streamlining is permitted in the Modified class. Streamlining is defined as any devices or objects forward of the rider that has the apparent **purpose** of directing, limiting, or controlling airflow around the motorcycle or rider.
3. Un-modified OEM air inlet scoops, OEM instruments, OEM instrument panels and/or OEM headlights mounted with un-modified OEM mounts in the OEM location are allowed.
4. If a round headlight is used, it must be between 5-1/2 in. and 7 in. outside diameter at the "lens" surface with a front radius not less than 18 in. The front surface must be within 5 deg. of perpendicular to the ground with the rider in the normal riding position. Any OEM motorcycle headlight can be used as long as it is installed in its originally intended position.
5. **Motorcycles using non-OEM instruments, or OEM instruments not using OEM mounts, must be mounted within an area defined as no farther forward than 6 in. in front of the leading edge of the upper triple clamp nor more than 4 in. above the top of the upper triple clamp nor more than 2 in. below the top of the upper triple clamp nor wider than 1 in. outside of each fork tube.**



7.F.12 Modified Partial Streamliner Class (MPS):

OEM Bodywork:

The OEM fairing, bodywork and tail section for the specific production model **are allowed without limitation**. Fairing and tail section shall be mounted in

a conventional manner and all bodywork pieces must be mounted in their original relationship to each other.

Replacement non-OEM fairings, bodywork and tail sections that exceed the limits in the section below must be an exact replica of the OEM parts. Documentation to verify conformation of non-OEM parts to OEM parts shall be available by the competitor.

Custom or Non-Model Original Bodywork:

No part of the fairing ahead of the front axle may be lower than the top of the front rim at the axle vertical centerline or extend forward of the front edge of the rim. Front fender coverage may not extend lower than a horizontal line through the front axle. There must be no streamlining forward of the front edge of the front rim. There must be no streamlining (other than a seat or tail section) to the rear of a line drawn vertically through the axle of the rear wheel, and the wheel must be clearly visible for the 180 deg. of its circumference to the rear of such a line. If a streamlined seat or tail section is used it cannot extend further to the rear than 3" from a vertical line at the rear edge of the rear tire or be more than 42 in. from the ground with the rider seated on the bike. It must be possible to see (all of) the rider completely from either side, except the hands and forearms; as viewed from directly above it must be possible to see all of the rider except the hands, forearms, legs and feet. It is forbidden to use any transparent material to avoid the application of these rules. Fairings or bodywork must have a minimum of three (3) separate mounting points. Egress demonstration may be required.



7.G ALTERED MOTORCYCLES

The Altered class is INTENDED for purpose-built, modified frame, Full APS Fairing, and race motorcycles. This class includes factory produced road racing or other racing "works" models. A specially constructed or "Altered" frame is unlimited in design, except for the class requirement of this section.

This class may have either a full APS fairing or two of the following:

- Two engines
- Unlimited engine displacement.
- Seat base lower than top of rear tire with the rider seated on the bike
- A fuel tank of any size
- Design items not permitted in the Modified Production class
- Center hub steering

All components must have sufficient strength to ensure stability and safety. Weld integrity and fabrication methods will be closely scrutinized during the

inspection process. The technical committee may require Non Destructive Test Certification of components and/or stress analysis of the design.

7.G.1 Foot rests:

Must be provided and the location is optional.

7.G.2 Optional exhaust systems:

Exhaust pipes may not extend beyond the rear edge of the rear **bodywork**.

7.G.3 Number/Class Designation plates:

See Section 7.B.1.

7.G.4 Fenders:

See fenders in Section 7.F.4.

7.G.5 Gas tank:

Must be mounted and constructed in a workmanship-like manner.

7.G.6 Wheels:

Must have a minimum nominal rim diameter of 15 in.

7.G.7 Brakes:

See section 7.B.10.

7.G.8 Chain guard:

See Section 7.B.16.

7.G.9 Engine:

Any single or dual combination of ~~motorcycle or snowmobile~~ engines is permitted. No more than two engines are permitted. Maximum total engine displacement for the motorcycle is unlimited.

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7.G.10 Altered Class (A):

- A: No streamlining is permitted in Altered class. Streamlining is defined as any devices or objects forward of the rider that have the apparent **effect** of directing, limiting, or controlling airflow around the cycle or rider.
- B: Seat or tail section must conform to partial streamlining rules. (Below)
- C: If a round headlight is used, it must be between 5-1/2 in. and 7 in. outside diameter at the "lens" surface with a front radius not less than 18 in. The front surface must be within 5 deg. of perpendicular to the ground with the rider in the normal riding position. Any OEM motorcycle headlight can be used as long as it is installed in its originally intended position.
- D: **Un-modified OEM air inlet scoops, OEM instruments, and/or OEM instrument panels mounted with un-modified OEM mounts in the OEM location are allowed in the Open class and meet the non-streamlining rule. Documentation to verify OEM parts shall be made available to the inspector by the competitor.**

Motorcycles using non-OEM instruments, or OEM instruments not using OEM mounts, must be mounted within an area no farther forward than 6 in. in front of the leading edge of the upper triple clamp nor more than 4 in. above the top of the upper triple clamp nor more than 2 in. below the top of the upper triple clamp nor wider than 1 in. outside of each fork tube.



7.G.11 Altered Partial Streamliner Class (APS):

If a streamlined seat or tail section is used it cannot extend further to the rear than a maximum of 10 in. beyond the rear edge of the rear tire or 1/3 of the wheelbase and whichever is less. No part of the seat/tail section may be closer than 4 in. from the ground, or be more than 40 in. from the ground with the rider seated. NOTE: The performance of motorcycles with regard to side load will be carefully scrutinized by race officials and onerous restrictions may be enforced.

It must be possible to see the rider completely from either side, EXCEPT THE HANDS AND FOREARMS. As viewed from directly above it must be possible to see all of the rider except the hands, forearms, legs and feet. It is forbidden to use any transparent material to avoid the application of these rules. Fairings or bodywork must have a minimum of three (3) separate mounting points. Egress demonstration may be required.

No part of the fairing ahead of the front axle may be lower than the top of the front rim at the axle vertical centerline or be forward of the front edge of the rim. There must be no streamlining forward of the front edge of the front rim.

7.H STREAMLINER (S):

A Streamliner is a motorcycle designed so that it is not possible to see the complete rider in the normal riding position from either side or above. Wheelbase is unlimited and must make a single track. Power must be transmitted through the rear wheel only. Engine Specifications shall be the same as Altered. Steering must be done with the front wheel.

All components must have sufficient strength to ensure stability and safety. Weld integrity and fabrication methods will be closely scrutinized during the inspection process. The technical committee may require Non Destructive Test Certification of components and/or stress analysis of the design. Prior to starting construction it is strongly suggested that the constructor submit final design prints to the technical committee for evaluation of compliance with rules and safety considerations.

7.H.1 Sealed Firewall:

There must be at least one sealed firewall between the rider and engine/fuel compartment(s) as well as adequate drains in engine/fuel compartment(s). All linkage and controls that pass through the firewall(s) must go through the upper half to avoid fuel seepage into the rider compartment.

7.H.2 Fire Extinguishing System:

All Streamliners must have a rider controlled fire extinguisher system directed to the engine/fuel compartment. If an automatic heat sensing control is used, a manual control must also be fitted. Refer to Section 3.Q for additional requirements.

7.H.3 Driver/Rider Suit:

A complete, approved driver/rider suit conforming to SFI specification 3.2A/15 is REQUIRED. Gloves and boots must be SFI specification 3.3/5 rating. A SFI specification 3.3 head sock must be worn under the helmet.

7.H.4 Roll Cage:

Shall completely surround the rider and shall be fitted in the rider's compartment. Minimum diameter is 1-1/4 in. with .090 in. nominal wall thickness, mechanical steel tubing. No galvanized pipe, black water pipe or threaded fittings are permitted. The design of the roll cage shall incorporate the following features as a minimum: Two (2) roll bars, (one forward and one after the rider's head), which must be tied together and capped with a steel plate .090 in. thick. The cap must cover the upper 140 deg. of the rider's head. The roll bar must be braced with a tube of the same dimensions on each side. Rider head movement must be limited to no more than 2 in. to each side, top, or rear, with rider's head in the normal position. Roll cage padding meeting SFI specification 45.1 for round tube roll cage padding and SFI specification 45.3 for flat roll cage padding is required in the vicinity of the driver's helmet.

Forward Movement: All NEW motorcycle streamliners present for inspection shall have an engineered and tested SFI spec 38.1 type head and neck restraint system.

The lateral movement structure (see 3.A.3) shall be constructed such that the helmet cannot exit the outer plane of the roll cage. The seat or roll cage structure shall provide restriction to lateral head movement of less than 2" per side inclusive of structure deflection.

Refer to Section 3.B for design explanations.

7.H.5 Seat Belts and Limb Restraints:

A complete competition seat belt and shoulder harness is required with shoulder, lap, and crotch straps. Limb restraints from the wrist to the central harness buckle must be used, see Section 3.D. Approved limb restraints with SFI 3.3 spec dated 2006 or later are required in all streamliners.

7.H.6 Rider Compartment:

The rider compartment must be free from sharp edges, protrusions, brackets, etc., within close proximity to the rider. A rigid inner liner must be provided to retain legs within roll cage structure. The rider compartment must be equipped with a fresh air intake or breathing system to carry away fumes. All air breathing and cooling systems that supply air to the driver must have fire retardant protection on the hoses that supply air.

The seat shall be constructed of a metal or alloy sufficient to retain the driver under high "G" loading. Composite seats must be approved by the technical committee, no plastic or fiberglass seats will be allowed.

Secondary flooring, metal sheeting in the driver's compartment for the purpose of retaining the rider and appendages in the event of step pan or belly pan tear away must be added. See Section 3.G.

7.H.7 Windshields:

All windshields must be of shatter-resistant plastic, such as Lexan®, and provide 120 degrees of adequate horizontal forward vision.

7.H.8 Fuel Shutoff:

A remote fuel shutoff to disable pump operation that can be easily actuated from the rider compartment must be fitted. **All electric fuel pumps shall have an inertial shutoff switch in the circuit to disable pump operation.**

7.H.9 Fender:

A bulkhead or fender must be fitted around any tire within the rider compartment. The fender must be metal construction or must be covered with a ballistic shield.

7.H.10 Canopy:

If a canopy is used, the rider must be able to exit from streamliner without assistance whether the machine is upright or on its side. The canopy must be clearly marked on the outside with directions for opening by emergency personnel. Rider compartment cover or hatch cover must have a release mechanism allowing it to be opened quickly, without hand tools, from the inside and the outside the vehicle. The canopy must be securely closed in competition by the employment of a mechanical fastening. The steering mechanism can move, but the canopy shall not be attached to the steering mechanism.

7.H.11 Tires and Wheels:

Tire and wheel sizes are unlimited. Tires must meet the speed rating as shown in Section 7.B.9. In manufactured for racing or reinforced per Section 2.G must be used.

7.H.12 Test Runs:

A series of test runs will be required of all Streamliners and riders. Vehicle stability and rider licensing evaluations will be conducted at speed increments specified in Section 1.M, Driver Licensing, until maximum speed is attained. Each run must be observed by the Contest Board observers and approved before advancing to the next higher speed. All speed tests will be terminated with a parachute test.

7.H.13 Parachute:

A parachute is required on all Streamliners. Streamliners going over 250 MPH are required to have two parachutes, one for high speed and one for low speed. Parachute release mechanism must be mounted in a position allowing it activation **within rider's range of motion**. It is required that automatic mechanisms be installed that will actuate when the machine is laid over 50 deg. on enclosed tail streamliners, and 80 deg. on open tail streamliners. A demonstration of the parachute including deployment is required at each event. All non-manual parachute release systems must have a redundant manual release as a backup.

7.H.14 Steering:

All steering systems shall be direct, gear or link type. The handlebars shall have adequate clearance and the mounting shall have sufficient support to prevent unwanted movement. All moving parts shall operate freely without excessive play. The steering linkage shall have sufficient clearance between the body and the chassis. All components must have sufficient strength to ensure stability and safety. Weld integrity and fabrication methods will be closely scrutinized during the inspection process. The technical committee may require Non-destructive Test Certification of components and/or stress analysis of the design.

It is recommended that all steering system welds be visually inspected on a frequent basis. Competitors may wish to periodically qualify exceptionally critical welds by means of x-ray or magnaflux. If a potential problem is observed in the inspection process the Technical Committee may require the competitor to provide an x-ray or magnaflux certification.

All spherical ends (i.e., Heim) used in steering systems shall not be constructed of aluminum. All spherical ends shall have washers with a larger OD than the Heim to retain the joint should separation occur (solid type Heim joints are required). All bolts used in steering linkage must be at least grade 5. For vehicles with long steering shafts the shaft shall be collapsible or have a secondary steering shaft stop installed.

7.H.15 Brakes:

All Streamliners must be equipped with a front and rear wheel brake as required, see section 7.B.10.

7.H.16 Number/Class Designation:

Streamliners must have a minimum number/letter area of 10 in. x 12 in. on both sides of the body.

7.H.17 Tanks:

Fuel tank, oil tank, and battery (unless sealed in an acid spill-proof box, Section 7.H.20) must be separated from the driver/rider by a firewall. No fuel lines may be routed through the rider compartment.

7.H.18 Engine:

Any single or dual combination of motorcycle engines permitted. No more than two (2) engines are permitted. Maximum total engine displacement is unlimited.

7.H.19 Stabilizer Wheels/Skids:

Wheels are required on stabilizer outriggers. Streamliners using stabilizer outriggers must have a positive lock in both the 'up' and 'down' positions. **Outriggers** are to be locked in a retracted position as soon as the motorcycle becomes stable. **Skids are only allowed with prior approval.**

7.H.20 Batteries:

All batteries shall be properly secured with metal framework and fasteners. Batteries may be mounted in the driver's compartment if sealed in an acid spill-proof box. All streamliners must be equipped with a main battery disconnect switch. The disconnect switch must be visible and clearly marked.

7.H.21 Towing:

All streamliners shall have an obvious place for course workers to quickly attach a tow strap for emergency towing of the streamliner off the race course.

7.H.22 Chain/Belt Guard:

Guards are required to prevent a failed chain or belt from damaging fuel, oil, coolant or hydraulic lines.

7.I SIDECAR CLASS (SC):

A sidecar is a three-wheel vehicle leaving two tracks with only the rear-most wheel driving. The front and rear tires shall leave a **single track** no wider than the wider of the two **tires**.

7.I.1 Passenger:

Passenger(s) are not allowed in or on the sidecar. Loading of sidecar wheel must be sufficient to assure stability. Properly secured weight or ballast may be used.

7.I.2 Engine location:

The engine/engines must be located between the front and rear drive wheel, and the engine centerline located within the width of the rear tire.

7.I.3 Driver location:

The rider must operate the sidecar outfit with motorcycle type handlebars from a position which places his centerline between the front and rear drive treads. The rider must be able to exit the outfit without restriction, unless in compliance with enclosed streamliner rules.

7.I.4 Chassis and Suspension:

The outfit's chassis and suspension may be of conventional solo motorcycle configuration utilizing attached sidecar chassis and body/platform panels. Altered chassis with integral or attached sidecars are permitted and encouraged. All wheel suspension is encouraged.

7.I.5 Steering:

Telescopic fork, leading or trailing link or center hub or spindle steering/suspension system may be used. Only the front wheel may be steerable. All systems must incorporate a steering damper. Cable steering is not permitted.

7.I.6 Sidecar Mounting:

The sidecar unit may be located on either the left or right side. All universal type mounting brackets and rigid bar fittings must have adequate depth of engagement, rigidity, and security. All attaching fasteners must be safety wired or otherwise secured by visually verifiable means. Multiple rigid bars may be necessary to ensure rigidity. Universal mounts deemed inadequate for competition must be replaced with purpose-built components approved by the competition committee. Altered outfits with integral or attached sidecars will be evaluated for adequate dispersal of sidecar-induced stresses.

7.I.7 Wheelbase and Track:

Track must be no less than 32 in. and wheelbase between 50 in. and 110 in. No wheelbase restriction on streamliners.

7.I.8 Wheel size:

The front and rear wheel rim shall be no less than 10 in. nominal diameter. The sidecar wheel rim may be no less than 5 in. nominal diameter. No size restriction on streamliners.

7.I.9 Tires:

The speed rating requirements for solo machines apply, see Section 7.B.9.

7.I.10 Chain guard and wheel cover:

See Section 7.B.16 Chain Guard requirements. The inside of the sidecar wheel must have a cover.

7.I.11 Sidecar Construction: 7.I.11

A passenger is NOT allowed to ride in or on the sidecar. Sidecar platform must be able to accommodate a forward-facing, kneeling passenger with a size and weight of 5 ft. 7 in., 170 lbs. The platform must encompass a rectangular shape having a minimum dimension of 12 in. by 32 in. The 12 in. dimension shall be oriented perpendicular (90 deg.) to the wheelbase of the motorcycle. The 32 in. dimension shall be oriented parallel to the wheelbase.

7.I.11A Sidecar Wheel Loading

Loading of sidecar wheel must be sufficient to assure stability. Proper secured weight or ballast may be used. A minimum of 10% of the rig weight is required to be on the sidecar.

7.J Sidecar Streamliner (SCS):

This is the ultimate sidecar land speed vehicle. Innovation in design is encouraged. Must meet all sidecar requirements and two-wheel streamliner requirements, except Section 7.H.19. Passenger accommodations and track requirements must conform to Sections 7.I.11 and 7.I.7. No wheel base restriction for streamliners. All sidecars not meeting the unrestricted driver exit requirement in Section 7.I.3 must run in this class.

7.I.13 Test Runs:

Vehicle stability and sidecar driver licensing evaluations will be conducted at speed increments specified in Section 1.M until maximum speed is attained.

Adjustment of sidecar ballast and/or wheel alignment may be required.

7.K Electric Motorcycles

The LTA, in cooperation the NEDRA (National Electric Vehicle Drag Racing Association) has developed EV motor classes to allow for a compilation of land speed records from around the globe specific to electric powered vehicles. While we do maintain an affiliation with the NEDRA, it does not extend beyond the sharing of records.

The NEDRA rules are specific to ELECTRIC DRAG RACE VEHICLES. NEDRA members must comply with all LTA competition rules and regulations to compete at LTA sanctioned events; just as they must comply with all NHRA rules at NHRA events.

The rules below are a combination of NEDRA and LTA rules. LTA rules have been substituted where the LTA rule must be followed. Any rule on which NEDRA is mute shall be governed by the LTA rules in section 2 and 3. If any discrepancy is found between rulebooks, the LTA supersedes all NEDRA rules.

NEDRA Class Validation:

While all electric vehicles will compete in an appropriate LTA class for LTA records, the EV Technical Director will certify the NEDRA class for their records. For NEDRA record certification, participants must be NEDRA members.

Electric Power Class Designation:

Electric power shall be designated in the LTA records as a fuel type: i.e. M/E-48 = Modified/Electric-48 volt.

7.K.1 Motor

- A: Electric motor(s) only permitted.
- B: SPECIAL CONSIDERATION MUST BE MADE FOR INCREASE IN SUSTAINED LOADS PLACED ON LSR VEHICLES COMPARED TO DRAG VEHICLES. MOTORS, WIRING, AND COOLING MAY NEED TO BE UPGRADED TO REFLECT THESE CONDITIONS.
- C: Exposed-motor motorcycles with open frame, vented, or brush replacement window motors must install a motor shield, minimum 0.024-inch steel or 0.032-inch aluminum, or 0.120-inch Lexan.

7.K.2 Batteries

- A: Must be securely mounted and protected from slide or accident damage.
- B: Sealed boxes must be vented away from the driver and racing surface.
- C: Wet, (free liquid) batteries are not allowed.
- D: Each battery or battery pack must be secured with bolts and straps commensurate with the size and weight of the battery. See Sec 5.I.7.

7.K.3 Electrical Wiring

- A: SPECIAL CONSIDERATION MUST BE MADE FOR INCREASE IN SUSTAINED LOADS PLACED ON LSR VEHICLES COMPARED TO DRAG VEHICLES. WIRING MAY NEED TO BE UPGRADED TO REFLECT THESE CONDITIONS.
- B: All high-voltage/current wiring must be located and secured to prevent contact by driver and/or spectators.
- C: Any wiring over 24 volts must be completely covered.
- D: High VOLTAGE wiring for instruments is allowed.
- E: Traction motor wiring must be completely isolated from the chassis and must have full positive and negative leads to the battery.

7.K.4 Fusing of Batteries

- A: All battery packs must have over current protection.
- B: Battery sub-packs must be individually fused.
- C: Circuit breaker(s) or fuse(s) are permitted.
- D: Such protection devices must have a DC voltage rating equal or greater to the nominal pack voltage.

7.K.5 Recharging

- A: Batteries may be recharged in the pits or other designated areas only.
- B: Vehicle must be connected to AC (earth) ground when charging.
- C: Charger must be internally fused with a fuse size appropriate for the chargers maximum DC output current.

7.K.6 Ignition

- A: All vehicles must have a visible indication of a 'live' except OEM.
- B: An externally activated switch or switch control must be installed on the outside of the vehicle and clearly marked to indicate OFF position. The rear of the vehicle is the preferred location.
- C: Traction battery pack must be physically disconnected when switch is in the off position
- D: A RED triangle must be clearly visible the power system is turned on. This may be a light or a mechanical indicator.

7.K.7 Master Cutoff

All vehicles except OEM must incorporate a master electrical disconnect switch that must disable all electrical functions. Switch must disconnect traction motor battery pack section of circuit, and if switch is push-pull design, push must be the "OFF" function.