7 MOTORCYCLES

7.A GENERAL REQUIREMENTS

7.A.1 Rider's License:

Land Speed Record attempts or Record Trials are open to all ECTA members in good standing. Competitors **18 and over** must current and valid state driver's license.

7.A.2 Event Procedures:

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

7.A.3 Production Class Records:

Production records are subject to approval and will be certified ONLY after comparison with the manufacturer's specifications for the model entered. **The entrant is required to provide suitable documentation substantiating the production design of the entry.**

7.A.4 New Race Vehicles:

It is strongly recommended that all new Special Construction class (A, APS, Streamliner, SC, or SCS) vehicles, or vehicles in these classes that have been extensively modified, be submitted for a pre-event inspection by the Board. If not practical because of distance, photographs and drawing may be submitted to Joe Timney, Keith Turk or Todd Dross.

7.A.5 Appearance:

All motorcycles entered in an event shall be maintained so as to present a neat appearance. **All owners, riders, and crews are responsible for the maintenance of their pit area and will be expected to present a neat and respectable appearance.**

7.A.6 Rule Changes:

Any active ECTA member may submit a request for motorcycle rule change or clarification at any time by obtaining the proper form from the ECTA. The form must be completely filled out and must be submitted by US or email to the ECTA. When all appropriate research is completed, issues will be put on the agenda for discussion at the next appropriate rules meeting, (usually in November of each year).

7.B MOTORCYCLE TECHNICAL SPECIFICATIONS & REQUIREMENTS:

7.B.1 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 in the riding position and must contrast with the background on which they are applied. 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. The number/class must be located on a flat, smooth vertical surface with a minimum dimension of 6 in. high by 8 in. wide. The surface may be part of the motorcycle or number plates may be used. Plates, if used, must be securely mounted; meet the minimum dimensions and any corners must have a 1 in. radius, and must be located ahead of a vertical line through the rear axle.

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.

7.B.2.2 Ignition Kill Switch Lanyard:

All motorcycles must be equipped with a tether type mechanical device attached to the vehicle and the rider so the engine ignition is shut-off if the rider becomes separated from the motorcycle.

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 motorcycle.

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 fuel petcocks or fuel filters are 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 Throttle:
A self-closing throttle must be fitted to all motorcycles.

7.B.4 Controls:
Control levers must have at least a ½ 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. ~~**The rider must use the handlebar(s) during the entire run.**~~ Fork stops must stop fork travel before the hands touch any other part of the motorcycle. **No decorative bar ends or pegs.**

7.B.5 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 build up, lamps may be rendered inoperative.

7.B.6 Mirrors:
Must be removed unless integrated into the fairing. The glass in the integrated mirrors may be taped or removed.

7.B.7 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.8 Tire Requirements:
All competitors going over 187 MPH must sign the tire waiver form. 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. Sidewall date coding may be checked**.**

Tubeless, bias ply type tires may be run with tubes. Tires designed for use on the drive wheel in drag racing will not be allowed. It is the responsibility of the entrant to check inflation pressures and tire and wheel condition immediately before and after every run.

All motorcycle entries, including streamliners and sidecars, must use tires with an appropriate speed rating. The required speed rating is governed by the record speed in the class entered. Tires rated H CANNOT be used beyond the speed rating. Any run in excess of 200 MPH requires that the contestant examine tires for apparent deterioration or damage before further runs are conducted.

0 to 70 MPH	Any tire designed for motorcycle use is permitted
71 to 130 MPH	Production tires with a speed rating of H or higher.
131 to 150 MPH	Production tires with a speed rating of V or higher.
151 MPH+	Production tires with a speed rating of ZR or special tires for racing as designated by the manufacturer. Production tires with a speed 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 other racing tires rated for speeds higher than the class record.

Any tire deviation must be submitted to the Board, with sufficient supporting data to justify a deviation, in writing at least 45 days prior to the meet. **Due to the duration of this event, rear drag tires are not acceptable.**

7.B.9 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.10 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.
No wheel discs are permitted.

7.B.11 Gasoline:
The addition of a power additive or changes of any nature (other than oil designated for lubrication only) to GASOLINE is prohibited. The penalty for violation of this standard shall be disqualification. See Section 2.B.

7.B.12 Fuels:
In fuel classes, any approved liquid fuel may be used, see Section 2.B.

7.B.13 Engine size:
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, the resulting displacement must be exceeded to qualify for 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.

7.B.14 Unsafe Motorcycle:
If a Technical Inspector or the Chief Starter judges a motorcycle unsafe it will not be allowed to compete.

7.B.15 Wheel Retention:
All axle retaining nuts, ~~**pinch bolts**~~ and axle caps 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.16 Tow Starts:
Dead motor tow starts will not be permitted except for Streamliners.

7.B.17 Steering Damper:
Required in all classes over 125 MPH.

7.B.18 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 specifically permitted by class rules.

7.B.19 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 for OE girders**.

7.B.20 Exhaust:
All exhaust system outlets must be directed away from rider, the rear tire and the course surface.

7.B.21 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. **~~Nitrous oxide installations must provide crash protection for the bottle shut off valve~~**. 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.

7.B.22 Chain Guard:
All chain or belt driven motorcycle entries (Streamliners see Section 7.H.22) 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 ¼ 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.23 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 (ECTA ONLY).

7.B.24 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.25 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 and 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.26 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.27 Handlebars:
Handlebars must be made of steel, aluminum, titanium or other material approved by the Board.

7.B.28 Windshields/Windscreens:
All windshields and windscreens shall be made of shatter resistant plastic, such as polycarbonate (Lexan).

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

7.C.1 Driver's Helmet:
All riders must wear a full-face helmet with face shield, which must meet Snell Foundation M2000 or later specifications**.** No open face helmets will be allowed. Helmets will be visually inspected at least once each year. Helmets must be undamaged, unmodified and in serviceable condition. Eyeglasses worn under the helmet must be shatterproof.

Riders must demonstrate proper helmet fit and "roll off" resistance.

7.C.2 Leathers:
Leathers certified by a recognized manufacturer to be suitable for the application are required. One-piece suits or two-piece suits zippered together are allowed. Required over 175 MPH: One-piece leathers or

two-piece leathers with full (270 degree) ~~**metal**~~ zipper. Also required over 175 MPH: Special protective armor, as produced by a recognized manufacturer, with minimum coverage at elbows, knees, shoulders, hips and back. Undergarments having the required armor coverage are acceptable, when the undergarment is worn with the required leather suit.

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 CLASSIFICATION OF DISPLACEMENTS, FRAMES, ENGINES, AND ENGINE TYPES:

NOTE: Motorcycle classes are listed in order of displacement, frame type and engine type.

7.D.1 Designated Frame Class

P	Production
M	Modified Production
A	Special Construction/Altered
MPS	Modified Partial Streamlining
APS	Special Construction Partial Streamlining
SC	Sidecar
SCS	Sidecar Streamliner
S	Streamliner

7.D.2 Designated Engine Class

P	Production
PP	Production Push Rod
PB	Production Supercharged **(formerly PS with the ECTA)**
PV	Production Vintage
G	Modified Engine: Gasoline
PG	Push Rod Engine: Gasoline
VG	Vintage Engine: Gasoline
UG	Unlimited Engine: Gasoline
BG	Supercharged Engine: Gasoline
PBG	Supercharged Push Rod Engine: Gas
VBG	Supercharged Vintage Engine: Gasoline
F	Modified Engine: Fuel
PF	Push Rod Engine: Fuel
VF	Vintage Engine: Fuel
UF	Unlimited Engine: Fuel
BF	Supercharged Engine: Fuel
PBF	Supercharged Push Rod Engine: Fuel
VBF	Supercharged Vintage Engine: Fuel
Ω (O)	Steam, Turbine or Electric

7.D.3 Engine Displacement Classes:
Engine Classes are shown in cubic centimeters: 50, 100, 125, 175, 250, 350, 400 (ECTA ONLY), 500, 650, 750, 1000, 1350, 1650, 2000 and 3000 where permitted and 3001 and above where permitted.

7.D.4

Class	Engine Classes	Max Displacement	# of Engines:
P	P, PP, PB, PPB, PV	3000	1
M	All except UG & UF	3000	1
MPS	All except UG & UF	3000	1
A	All except UG & UF	3001 & above	2
APS	All except UG & UF	3001 & above	2
S	All	3001 & above	2
SC	All	3001 & above	2
SCS	All	3001 & above	2

Classes defined and not restricted under items 7.D.1, 7.D.2, 7.D.3 and 7.D.4 are open for competition.

7.E EQUIPMENT

7.E.1 PRODUCTION

A production motorcycle model of which 500 or more have been produced and which are available for sale to the general public through retail motorcycle dealers and is completely 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.
The only modifications which may or must be made are as follows:

7.E.1.1 Handlebars:
Any shape may be fitted to original handle bar mounts, except handlebars which extend more than 15 in. above, 4 in. in front of, or 4 in. below the original handle bar mounts. See Section 7.B.27.

7.E.1.2 Footrests:
Must be the original equipment. Passenger footrests must be removed.

7.E.1.3 Side and center stands:
These may be removed.

7.E.1.4 Air cleaner element, toolbox, and license plate bracket:
These may be removed.

7.E.1.5 Number/Class:
See Section 7.B.1.

7.E.1.6 Lighting equipment and instruments:
Must be exactly the same as fitted to the original model when it was sold. Reflectors, turn signal lights, and brackets may be removed only if not integrated with body fairing parts. To avoid heat build up, lamps may be rendered inoperative.

7.E.1.7 Fairings, windshields, seats and side panels:
Parts that are factory equipment standard for the particular model must remain on the motorcycle and be unaltered in height, width, and contour.

7.E.1.8 Tires:
See Section 7.B.8.

7.E.1.9 Chain guard:
See section 7.B.22.

7.E.1.10 Wheel rims:
Rims may be changed only if necessary to obtain tires that meet the necessary tire requirements.

7.E.1.11 Suspension height adjustment:
OEM Specification for minimum ground clearance must be met.

7.F MODIFIED PRODUCTION

The Modified Class is intended for “modified” production models and not purpose-built racing bikes.

This class includes all On Road, On-Off Road and Off Road only models and limited production models (less than 500).

This class does <u>not</u> include factory produced road racing or any other “works” racing models.

The requirements for this class include:

• Frames must be based on an OEM type frame or production replacement having similar geometry.
• The engine must be from the same manufacturer as the frame.
• A single engine with maximum displacement limited to 3000 cc.
• A maximum wheelbase of 68”.
. Entrants must provide acceptable documentation for record certification.
• Handlebar grips and rider seating position must be above the top of the rear tire with the rider seated, unless original OEM design.
• Gas tanks, if not original equipment to the production model, must have a <u>minimum</u> capacity of 5 liters or 1.32 gallons.

Original lights, instruments, fenders, gas & oil tanks, seat, forks, swing arm, shocks, brakes and wheels are optional.

Bikes that meet the requirements for the Modified Production Class by definition, cannot run in the Special Construction Class.

7.F.1 Foot rests:
Must be ahead of the rear axle at least by 6 in.

7.F.2 Optional exhaust systems:
Optional exhaust pipes may not extend behind rear edge of rear tire.

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 may be fitted. Special fenders must be made and attached in a workmanship-like manner.

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 in question. Center hub steering and equivalent or derivative of this design is not permitted in this class, unless factory produced for the model.

7.F.8 Brakes:
See section 7.B.23.

7.F.9 Chain Guard:
See section 7.B.22.

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 Open Class:

1. No streamlining is permitted in the open motorcycle 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.

2. Seat or tail section must conform to partial streamlining rules.

3. 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.**

7.F.12 Partial Streamlining:
The OEM fairing, bodywork and tail section for the specific production model are allowed. 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 must be an exact replica of the OEM parts. Documentation to verify conformation of non-OEM parts to OEM parts must be made available to the inspector by the competitor.

The following rules apply to motorcycles not using OEM components (or replicas of those components), or using a fairing, bodywork or tail section on a production model that was not originally equipped with the components used.

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. Forward 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 SPECIAL CONSTRUCTION/ALTERED

A special construction frame is unlimited in design, except for the class requirement of this section. The Special Construction class is intended for purpose-built race bikes. This class includes factory produced road racing or any other racing "works" models. Bikes in this class may have:

- One or 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
- Forks or 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.

~~**A bike entered in the Special Construction Class cannot be entered as a Modified Production Class entry within the same racing season.**~~ This rule does not apply with the ECTA.

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 tire.

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.23.

7.G.8 Chain guard:
See Section 7.B.22.

7.G.9 Engine:
Any single or dual combination of motorcycle engine is permitted. No more than two engines are permitted. Maximum total engine displacement limit for the motorcycle is unlimited.

7.G.10 Open Class:
See Modified Production, Section 7.F.11.

7.G.11 Partial Streamlining:

There must be no streaming 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 line. If a streamlined seat or tail section is used it cannot extend further to the rear than a maximum of 8 in. beyond the rear edge of the rear tire or be more than 46 in. from the ground with the rider seated on the bike. No part of the seat or tail section that extends beyond the rear axle may be lower than the top of the rim of the rear tire 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.**

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

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. Steering must be done with the front wheel only.

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:

Must completely surround the rider and must 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 must 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 is required in the vicinity of the driver's helmet.

7.H.5 Seat Belts and Shoulder Harness:

A complete competition seat belt and shoulder harness is required with shoulder, lap, and crotch straps. Arm restraints from the wrist to the central harness buckle must be used, see Section 3.D.

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 limbs within roll cage structure. The rider compartment must be equipped with a fresh air intake or breathing system direct to the rider and be configured to prevent contamination by fire, smoke, fumes or fire suppression agents.

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 that can be easily actuated from the rider compartment must be fitted.

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:
A 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.

7.H.11 Tires and Wheels:
Tire and wheel sizes are unlimited. Tires must meet the speed rating as shown in Section 7.B.8. In all classes over 200 MPH, or for wheels having a diameter of 29 in. or greater, wheels 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 to be activated without removing the rider's hands from the steering mechanism. 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 system including deployment is required at each event.

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 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.23.

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 Skids:
Streamliners using skids must have a positive lock in both the 'up' and 'down' positions. The shoe or contact area must have a good form of ski-nose with a surface-friendly design. Skids are to be locked in a retracted position as soon as the motorcycle becomes stable. **Wheels may be required on out-riggers.**

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 and placed in a location that allows shut-off if the streamliner has fallen on either side.

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

A sidecar is a three-wheel vehicle leaving two tracks with only the rear-most wheel driving. The front wheel track must be entirely covered by the rear.

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. Special construction 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:
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. Special Construction 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.8.

7.I.10 Chain guard and wheel cover:
See Section 7.B.22 Chain Guard requirements. The inside of the sidecar wheel must have a cover.

7.I.11 Passenger Accommodation: 7.I.11
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.12 Sidecar Streamliner:
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 Driver Licensing until maximum speed is attained. Adjustment of sidecar ballast and/or wheel alignment may be required.

7.J ENGINE CLASSES

7.J.1 Production:
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. 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 class. See Section 7.D.3

7.J.2 Production Push Rod:
Same as Production, 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.J.3 Production Supercharged:
Same as Production, but an original brand factory installed turbocharger or supercharger is required.

7.J.4 Production Vintage:
Same as Production but must have been produced prior to 1956.

7.J.5 Class F:
Unlimited in design, but must be comprised of major parts and components designed primarily for use in motorcycle engines. No restrictions on fuel. Superchargers or turbochargers are not permitted. Fuel injection is permitted.

7.J.6 Class G:
Same as Class F, except it is limited to event gasoline.

7.J.7 Class BF:
Same as Class F, except supercharger or turbocharger is required and must be mechanically or exhaust gas driven and must pressurize the intake system above atmospheric pressure. No restrictions on fuel.

7.J.8 Class BG:
Same as Class BF, except it is limited to event gasoline. See section 2.B. Water injection is allowed, but water tanks must be inspected and sealed prior to each record run.

7.J.9 Class PG and PF:
Any motorcycle engine with push rod operated valves. 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. “G” designates a gasoline engine and “F” a fuel engine.

7.J.10 Class 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 only (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.J.10.1 Class VBF and VBG:
Same as class VF or VG, except that a supercharger is required and must be mechanically or exhaust gas driven and must pressurize the intake system above atmospheric pressure.

7.J.11 Class PBG and PBF:
Same as Section 7.J.9 above, push rod classes, except that a supercharger or turbocharger is required; subject to the same limitations as Classes BF and BG, respectively.

7.J.12 Class UG and UF:
Any reciprocating engine which uses the Otto cycle may run in Streamliner category only. Supercharged engines do not advance class size.

7.J.13 Class Ω (O - Omega):
An engine using a thermodynamic cycle other than Otto. This class includes electric, 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.J.14 Engine Displacement Classes:
Engine Classes are shown in cubic centimeters.100, 125, 175, 250, 350, 400 (ECTA Only) , 500, 650, 750, 1000, 1350, 1650, 2000, **3000+** where permitted.

7.J.15 Maximum Displacements & Engines:
See section 7.D.4 on page 74.

7.J.16 Engine Cycles:
At the discretion of the Technical Committee, some engine classes may be separated into two categories. Two Cycle and Four Cycle. The engine displacement will be followed by a /2 or /4 for classification. Examples: APS/G-750/2 or P/PP-1350/4. Rotary engines may be included in this subdivision. Example: APS/G-750R. Two cycle engines are limited to 1000cc.