Meeting Agenda

Technical Commission

2018 AMA Congress Meeting
Dec. 7-8, 2018
Columbus, OH
Meeting Agenda

1. Opening of the meeting
   Comments by the AMA Director of Racing – Kevin Crowther

2. Rule Proposal #TC-1218-1 – Equipment Definitions – Pg. 3

3. Rule Proposal #TC-1218-2 – Equipment Standards – Pg. 4

4. Rule Proposal #TC-1218-3 – Youth Classes – Pg. 4

5. Rule Proposal #TC-1218-4 – Amateur Classes – Pg. 4

6. Elect the 2019 Technical Commission Chairperson

7. Closing of the meeting
Proposal: SC-1218-1

CURRENT:
See Rulebook.

PROPOSED:
A. Equipment Definitions
   1. Motorcycle – A motorcycle is defined as a two-wheeled vehicle propelled solely by a combustion engine.
      a. Motorcycles must meet all of the requirements of a motorcycle with the exception of those specific to electric motorcycles listed in this section
   2. Electric Motorcycles – A Class 4 Electric Motorcycle is defined as a two-wheeled vehicle with an electric drive system activated with a throttle, propelled solely by a motor powered by stored electricity from a battery pack.
      a. Electric motorcycles must meet all of the requirements of a motorcycle and those specific to electric motorcycles listed in this section
   3. Electric Bicycles – A Class 1 Electric Bicycle is defined as a low-speed pedal-assisted two-wheeled vehicle. It is equipped with a motor powered by stored electricity from a battery pack that provides assistance only when the rider is peddling, and that ceases to provide assistance when the bicycle reaches a speed of 20 mph, and is limited to a max of 750w.
      a. Electric bicycles will be governed by supplemental event and technical rules as published by the AMA until such time as a comprehensive rules section can be added to the AMA Rulebook.

REASON:
Incorporating the definitions of Electric Motorcycles and Bicycles to the Rulebook.

Submitted By: AMA Staff

Decision: _____ Yes _____ No _____ Amended
American Motorcyclist Association
Proposal for Rule Book Revision

Technical Commission

Proposal: SC-1218-2

CURRENT:
See Rulebook for Equipment Section and following Chapters:
Homologation
Limited Class Standards
General Equipment Standards

PROPOSED:
See Attached for Chapter B. Homologation, Chapter C. Limited Class Standards and Chapter D. General Equipment Standards.

REASON:
Update the Equipment section of the rulebook for each discipline for Homologation, Limited Class Standards, and General Equipment Standards.

Submitted By: AMA Staff

Decision: _____ Yes _____ No _____ Amended
American Motorcyclist Association
Proposal for Rule Book Revision

Technical Commission

Proposal: SC-1218-3

CURRENT:
NEW

PROPOSED:

E. Youth Classes and Age Groups

Any of the following classes may be run, but all must be run as advertised. Additional classes may be run but must first be approved by the AMA.

<table>
<thead>
<tr>
<th>Class</th>
<th>Age Requirement</th>
<th>Batter Energy</th>
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<tr>
<td>Mini-E Jr.</td>
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<td>Maximum (adjusted length) wheelbase 41 inches. Maximum wheel size 12 inches. Maximum seat height 24 inches. Retrofitted 12-inch wheels are permitted on all class 2 motorcycles. OEM parts must be used.</td>
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REASON:
The addition of Youth Electric Motorcycle classes to the Rulebook.

Submitted By: AMA Staff

Decision: _____ Yes  _____ No  _____ Amended
Proposal: SC-1218-4

CURRENT:
See Rulebook for Amateur Classes and Age Groups.

PROPOSED:
See Attached for updated statement relating to electric motorcycles and amateur class structure. See Attached Chapter F.

REASON:
Addressing Electric Motorcycles and amateur class eligibility for the Rulebook.

Submitted By: AMA Staff

Decision: _____ Yes _____ No _____ Amended
Special Note: The American Motorcyclist Association doesn't inspect vehicles in AMA-sanctioned competition. Participants are solely responsible for the condition of their vehicles and their competence to operate them.

A. Equipment Definitions

1. **Motorcycle** – A motorcycle is defined as a two-wheeled vehicle propelled solely by a combustion engine.
   
a. Motorcycles must meet all of the requirements of a motorcycle with the exception of those specific to electric motorcycles listed in this section

2. **Electric Motorcycles** – A Class 4 Electric Motorcycle is defined as a two-wheeled vehicle with an electric drive system activated with a throttle, propelled solely by a motor powered by stored electricity from a battery pack.
   
a. Electric motorcycles must meet all of the requirements of a motorcycle and those specific to electric motorcycles listed in this section

3. **Electric Bicycles** – A Class 1 Electric Bicycle is defined as a low-speed pedal-assisted two-wheeled vehicle. It is equipped with a motor powered by stored electricity from a battery pack that provides assistance only when the rider is peddling, and that ceases to provide assistance when the bicycle reaches a speed of 20 mph, and is limited to a max of 750w.
   
a. Electric bicycles will be governed by supplemental event and technical rules as published by the AMA until such time as a comprehensive rules section can be added to the AMA Rulebook.

B. Approval Homologation of Motorcycles/Minicycles

1. Next year model machines are not eligible in any class at the AMA Amateur National Motocross Championships.

2. **0-112cc 2-stroke/150cc 4-stroke/Electric Limited Class**
   
a. To be approved for AMA-sanctioned competition, minicycles (engines and frames) must be available through retail distributors.

   b. For a minicycle to be homologated, the manufacturer must apply to the AMA, register the machine's specifications, provide photographs, OEM parts list, provide 10 identical machines of the same year and model for AMA Inspection and an additional 65 identical machines of the same year and model are manufactured and available for sale to the general public through a distributor network by April 15th of the current model year.
c. Manufacturers and distributors must have a sufficient quantity of spare parts to meet customer demand for a minimum of the current model year being approved.

d. Superseded or redesigned parts must be submitted to AMA Racing for review and approval before their use in competition. These parts must be listed in the current OEM parts list supplied to AMA Racing.

e. The AMA may require one unit of each approved model and/or superseded or redesigned part(s) to be provided for long-term parts comparison.

f. Only after the homologation paperwork has been verified and approved by AMA Racing will the minicycle be added to the approved for AMA competition list.

g. Homologation will last until such time as the motorcycle no longer conforms to the current limited class rules.

h. Homologation is required each year for new models even if that model hasn't changed from the previous year homologation.

i. AMA Racing will provide a list of homologated minicycles. This list may be updated at any time.

j. If at any time it is discovered that the manufacturer hasn't met the requirements or falsified any information during the homologation process, the manufacturer may be fined up to $10,000 and may be placed on probation or suspension from AMA competition for up to five years.

k. Minicycles will be approved at the sole discretion of AMA Racing.
C. Limited Class Equipment Standards

1. To be eligible for a **any** LIMITED CLASS, the following ARE NOT PERMITTED to be changed or modified:

   Air Box
   Air Box Vent Tube
   Air Filter Screen
   Air Intake Boot
   Axle
   **Battery Pack (Limited Electric Class)**
   Brake Rotor Size (thickness/diameter)
   Brake Master Cylinder
   Carburetor (including any parts with exception to jets)
   Clutch (any part including clutch cover) \(^2\)
   Crankshaft Stroke Length
   Cylinder Bore Size \(^1\)
   EFI Throttle Body \(^5\)
   Electronics \(^5\)
   Exhaust Control Valve (ECV)
   Exhaust Pipe (any part)
   Frame \(^3\)
   Front Forks \(^4\)
   Front Fork Caps
   Intake Spacer
   Internal Engine Components (blue printing is not allowed) \(^2\)
   **Internal Gear Reduction (Limited Electric Class)**
   Lower Triple Clamp
   **Motor (Limited Electric Class)**
   **Motor Controller (Limited Electric Class)** \(^5\)
   Oil Injection System (only oil may be in system) \(^6\)
   Rear Shock \(^4\)
   Reed Valve Assembly (any part)
   Rim Size
   Silencer (tip may be modified to accept spark arrestor)
   Subframe \(^3\)
   Swingarm \(^3\)
   Transmission (any internal part)
   Yamaha PW50 Start/Run/Off Switch
   Water Pump Assembly (any part except the cover)
   Wheel Hubs
2. To be eligible for the any LIMITED CLASS, the following ARE NOT PERMITTED to be added:

- Adjustable Leak Jet
- Bark Busters (closed end or wrap-around metal hand guards)
- Fork Brace
- Radiator Fan

3. The following notes are exceptions to the items listed above:

   a. Cylinder re-plating is allowed by the original manufacturer’s bore must be retained.

   b. Clutch plates, pistons, and piston rings may be aftermarket as long as they maintain the stock shape, design, and material of the OEM parts. High compression pistons are not allowed.

   c. Material may be added to the production frame or swingarm for strength, including welding. These changes shall not affect frame geometry.

   d. OEM front and rear suspension can be altered with internal modifications only. Shock linkage and suspension spring rates may be changed to any commercially available part.

   e. Programming or mapping changes to the stock OEM ECU or Motor Controller unit are permitted.

   f. To be eligible for limited classes that use oil-injection systems, the system must be fully functional and only oil may be put in the reservoir. Pre-mix gasoline is not allowed in the oil-injection system.
D. General Equipment Standards

Equipment used in sanctioned competition must meet the following standards, except as otherwise specifically provided for in this rule book. When the rules permit or require equipment to be installed, replaced, altered or fabricated, it is the sole responsibility of the rider to select components, materials and/or fabricate the same so that the motorcycle components will perform safely in competition. All classes are considered modified unless stated otherwise.

1. Electrical Motorcycle Safety
   a. Unless superseded, electric motorcycles shall adhere to ISO13063 Voltage Class A requirements as self-certified by the OEM.
   b. A master on switch is required that enables electronics of the motorcycle to be turned on. This is analogous comparable to a key switch function.
   c. A manual propulsion disable switch is required such that when active, no active rotation of the motor or power unit is possible.
   d. The electric motorcycle shall have automatic propulsion disable features under the following conditions:
      1. Tilt- Electric motorcycle tilted beyond TBD degrees from vertical for greater than 5 seconds
      2. Battery Fault- Unsafe operating condition of battery identified by BMS or loss of communication with BMS for greater than 5 seconds
      3. Timeout- No throttle commanded for greater than 5 minutes
   e. Throttle control shall use a redundant, non-contact sensing technology. Redundant signals shall be opposing direction and both required for throttle/motor control to be active.
   f. Throttle control has a means for diagnostics where the current position is displayed.
   g. The vehicle shall have a system status LED. When illuminated, the LED indicates that propulsion is active and using the throttle will spin the motor. The status LED is to be located on the front of the bike and visible to rider and officials facing the bike. LED shall be visible to a standing person when the electric motorcycle is laid down on its side.

1. Engines (Modified Classes)
   a. Motorcycles must use the crankcases of the production motorcycle engine. The use of sleeving, stroking or boring to change displacement classes is allowed.
b. Any crankshaft configuration may be used (180-degree firing, alternate firing, etc.).

c. Naturally aspirated engines only.

e. The actual displacement of a motor must be stamped on the side of the cylinder or engine case.

f. The displacement of the motorcycle or minicycle may not exceed the class limit. Piston displacement specifications depend on the type of meet.

g. Piston displacement may be measured using either of the following formulas:

\[ V = 3.1416 \times \left(\frac{1}{2} \text{ bore} \times \frac{1}{2} \text{ bore}\right) \times \text{ stroke} \times \text{ cylinders} \]

\[ V = 0.7854 \times \text{ bore} \times \text{ bore} \times \text{ stroke} \times \text{ cylinders} \]

Note: If bore and stroke is in millimeters, divide the end product by 1,000 to convert to cubic centimeters (cc). If bore and stroke is in inches, multiply the end product by 16.387 to convert to cubic centimeters (cc).

2. All combustion engine motorcycles must use petroleum-based gasoline as defined by the American Society for Testing and Materials (ASTM), designation: D4814. All gas must be stored in approved containers.

3. Motors (Electric Motorcycles)

a. A single electric motor is allowed for propulsion. Motor must power the rear wheel only.

b. Motor may be housed to include electronics, such as motor controller, and wiring to create a power unit.

c. Motor or power unit must contain a label with a serial number and OEM branding.

d. Motor or power unit must be mounted near center of chassis (mid-motor). No hub motors allowed.

e. Motor is only allowed to rotate to provide forward motion. Reversing of the motor is not allowed mechanically or electrically.

4. Motor Controller (Electric Motorcycles)

a. Motor controller must have OEM markings including serial number and OEM logo.

b. Aftermarket motor controllers are prohibited.

c. A motor controller may be integrated or housed with motor to create a power unit. Power unit
shall be labeled with serial number and OEM logo.

5. Electric Motorcycles
   a. Electric Motorcycle is a two-wheeled vehicle powered and propelled solely by stored electricity (battery/accumulator), without the use of petroleum based fuels. Racing eligibility will be determined through supplemental rules.

6. Transmission
   a. All motorcycles must be fitted with a transmission as catalogued and sold by the manufacturer of the motorcycle in question.
   b. Specially fabricated clutch levers or pedals may be used.
   c. Starting systems may be removed, including kick lever, pedal, starter crank gear and starter shaft. Kick pedals must be of the folding type.
      a. Only single speed (fixed) gearing is permitted on electric motorcycles.
   d. There are no limitations on external gearing.

7. Brakes
   a. Brakes must be manufactured and installed in a safe and workmanlike manner.
   b. A brake or braking device doesn't mean a compression release, although compression releases may be installed in addition to brakes.
   c. Motorcycles in motocross competition must be equipped with adequate, operating front and rear brakes.
   d. Brake ventilation is permitted.
   e. Brakes that operate by friction on the tire or wheel rim are prohibited.

8. Wheels and Axles
   a. Aluminum wheel axles are prohibited.

9. Frame
   a. Frame parts must be manufactured in a safe and workmanlike manner, and any frame modifications also must be done in a workmanlike manner.
   b. Titanium frames are not allowed.
   c. All stands must be removed.
   d. All footrests must fold back at a 45-degree angle for at least 50 degrees of movement.
   e. The maximum length of the footrest from the pivot point is 5 inches.
f. Footrests may be raised or lowered, but cannot be lower than the bottom frame tube.

g. Subframes may be replaced with aftermarket units of steel, aluminum, titanium or the same material of the OEM part.

e. The frame with which a rider has qualified can't be changed unless authorized by the event referee when deemed unsafe.

(1) Once the frame is deemed unsafe by the referee, it must be replaced.

(2) When changing frame is approved, only items from the original motorcycle/minicycle can be placed on the alternate frame. Unless authorized by the referee.

Note: Only the Referee may authorize a frame change for safety reasons

10. Handlebars and Controls
   a. Handlebars must be made of steel, aluminum, titanium or another material approved by the AMA. Repaired, cracked or broken handlebars are prohibited. Handlebar mounts may be altered.
   b. Control levers must have ball ends at least 1/2 inch in diameter.
   c. All motorcycles must be equipped with a functional mechanical kill device (such as a compression release) or ignition cut-off switch mounted on the handlebar and able to be reached without taking one’s hand from a handgrip.
   d. Motorcycles must be fitted with a self-closing throttle.

11. Forks
   a. Forks must be adequate in strength and size for the motorcycle and its use.
   b. If the forks are moved up in the triple clamps and protrude more than 1 inch (including air stem if so equipped) above the lowest portion of the handlebars, then a protection device must be fitted over them.
   c. A steering damper may be used.

12. Gas Tanks
   a. Gas tank capacity must be between 5 liters (1.32 gallons) and 24 liters (6.34 gallons). The gas tank must be manufactured and mounted in a safe and workmanlike manner.
   b. Leaking gas tanks or fittings, as well as temporary makeshift repairs, are prohibited.
   c. Seat tanks are prohibited.
   d. Gas tank vent lines must have a device that prevents gasoline from escaping.
13. Fenders
ea. The front fender and the rear portion of the rear fender may be removed, or special fenders may be fitted. However, any special fenders must be mounted securely and safely.
b. Rear fenders must extend at least to a vertical line drawn through the rear axle.

14. Chain Guards
a. A guard must completely enclose the primary drive (The counter-shaft sprocket and primary back drive are not considered parts of the primary drive).
b. A rear chain guard isn't required.

15. Exhaust System
a. The exhaust system must be attached securely together and to the frame, and must remain so until the end of the event.
b. The discharge end of an exhaust system may not extend past the rear edge of the back tire.
c. Motorcycles must be equipped with mufflers.
d. Sound Limits and Testing Procedures are located in Appendix 5.2.

16. Tires
a. Recapped or retreaded tires are prohibited.
b. No rubber or metal studs (or foreign materials) may be added to the tire tread.
c. No paddle tires may be used.
d. No liquid may be used as primary tire filler.

15 Number Plates
e. Three number plates are required, and must be mounted securely and in a workmanlike manner. All number plates must be clearly visible. Materials and thickness are to be OEM material and style.
f. Numbers must be at least 5-inch-high standard block letters. Numbers and letters must be clearly legible. Numbers must not be shaded or outlined and must have a professional appearance. AMA national numbers will take precedence in all events. Nothing but the number may appear on a number plate, except the top 2 inches of the front number plate for sponsor or riders name.
g. A minicycle number plate should be no smaller than the original equipment supplied by that model.
h. It is recommended that number plate colors be as follows:
A classification: White with black numbers.

B classification: Yellow with black numbers.

C classification: Black with white numbers.

i. It is recommended that, in addition to numbers on the motorcycle, the rider should put their number on the back of their jersey or chest protector.

j. Numbers on the rider and motorcycle must match.

16. Use of electronic communication with the rider or use of a portable electronic device of any kind (i.e. digital music device) that would be considered a distraction while on the motorcycle during the meet is prohibited.

17. Streamlined parts, shells or housings are not permitted.

18. No lights, license plates, brackets, mirrors, glass or equipment posing a hazard to the rider or other competitors are allowed.
E. Youth Classes and Age Groups

Any of the following classes may be run, but all must be run as advertised. Additional classes may be run but must first be approved by the AMA.

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<tr>
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<th>Age Requirement</th>
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Maximum (adjusted length) wheelbase 36 inches. Maximum wheel size 10 inches. Maximum seat height 24 inches.

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Maximum (adjusted length) wheelbase 41 inches. Maximum wheel size 12 inches. Maximum seat height 24 inches. Retrofitted 12-inch wheels are permitted on all class 2 motorcycles. OEM parts must be used.
F. Amateur Classes and Age Groups

1. The following is the complete class listing of approved amateur classes for AMA Motocross events. All classes are approved for competition and organizers must advertise any classes to be run. All classes must have a minimum wheelbase of 53 inches (except Women’s class). All classes may be divided into A, B and C skill levels at the organizer’s discretion.

<table>
<thead>
<tr>
<th>Class</th>
<th>Engine size</th>
</tr>
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<tbody>
<tr>
<td>* 125cc</td>
<td>122cc – 125cc, 2-stroke only</td>
</tr>
<tr>
<td>* 250cc</td>
<td>122cc – 250cc</td>
</tr>
<tr>
<td>**14 - 24 yrs.</td>
<td>122cc - open</td>
</tr>
<tr>
<td><em>/</em>* Open</td>
<td>122cc - open</td>
</tr>
<tr>
<td>**Vet 25+</td>
<td>122cc - open</td>
</tr>
<tr>
<td>**Vet 30+</td>
<td>122cc - open</td>
</tr>
<tr>
<td>**Vet 35+</td>
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<tr>
<td>**Senior 40+</td>
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<tr>
<td>**Senior 55+</td>
<td>122cc - open</td>
</tr>
<tr>
<td>**Senior 60+</td>
<td>122cc - open</td>
</tr>
<tr>
<td>Women (12+)</td>
<td>99cc - 250cc</td>
</tr>
</tbody>
</table>

2. Electric Motorcycle Classes

   a. With the exception of specific E-Classes listed within the AMA rulebook, electric motorcycle eligibility will be determined through event supplemental rules.

   b. When allowed through event supplemental rules, electric motorcycles will only be eligible to compete in open, non-displacement classes.

*Note: Classes marked with an asterisk should be run using the displacement limitations as shown.

**Note: When allowed through event supplemental rules, electric motorcycles are eligible in only the classes marked with a double asterisk