



# 2022 BSSO Group 4 Evo Standards Regulations v7



**Section 15 (General Regulations)** detailed within the Scooter section of the latest ACU Handbook apply in the first instance along with the following class restrictions and permissions:

## 1.1 'GEARED 4e (Evo) STANDARD CLASS' REGULATIONS:

For Evo Standard Machines the MAXIMUM PERMITTED engine capacity is up to 145/200/210cc (refer 1.17.1 - model restrictions apply). Any modifications made must not prejudice the safety of the machine, rider or any other competitor or official.

## 1.2 FRAME & FRONT FORKS:

The frame and front forks must have originated from the same Motor Scooter type and the main structure of the frame & forks shall remain as per the manufacturer's original specification, retaining its original geometry and mounting points for engine and suspension. Altering the rake, inclination, length and/or other dimensions is prohibited. Frame bracing is prohibited in the standard classes.

## 1.3 BODYWORK AND LEGSHIELDS:

The Motor Scooter shall have a body and legshields in the form of an apron and footboards of the platform type as per the manufacturer's original machine specification. All detachable external panel work, e.g. side panels, legshields, footboards, horn casting and front mudguards, which form part of the manufacturer's original specification, shall be securely fixed in place. Side panels, front mudguards, horn casting and the top section of the headlight & handlebar casing may be replaced with properly manufactured components of similar appearance and structural strength to the original specification. Legshields and rear runner boards to remain in metal.

Minor modifications to panelling will be permitted to allow the fitting of larger carburettors, footrests, exhausts, and similar, but trimming or reducing and/or adding to original specification dimensions are prohibited. For the avoidance of doubt any such trimming modifications must not exceed beyond 10mm of the required aperture to allow for the fitment of these items. [See Guidance Note]

The tail-light unit and headlight and handlebar casings shall remain in their original position though the glass must be removed.

## 1.4 HANDLEBAR CASING/HEADSET:

Any handlebar casing is permitted, provided that it is manufactured to the original manufacturer's specification for the same machine type and fitted in the original mounting position only. This includes replica handlebars, as long as the size and appearance remain the same as the replicated standard bars and must retain the original operation of rods & pulleys. Replica handlebar casings can be made from GRP to provide the original shape and appearance.

ALL handlebars/headsets must retain the original geometry/dimensions/angles/silhouette and overall appearance.

No further deviation relating to the angle of inclination or similar will be permitted i.e. aftermarket dropped handlebars. As such alterations to cast handlebar assemblies are prohibited except for Lambretta Vega and Luna type machines where lowering of the handlebar grips is permitted providing the grips remain in the same horizontal and vertical planes relative to the ground and they are fixed to the original casting base.

Internal/External quick action throttles are allowed, along with the fitment of a brake guard.

## 1.5 SEATING:

Any type of seating may be used provided it is properly padded and securely fitted in place, but it shall not extend beyond the rear of the bodywork of the machine unless so positioned in the manufacturer's original specification. No part of the seat must be more than 900mm above the ground when the motor scooter is not loaded.

## 1.6 MUDGUARDS:

For Standard Class Machines mudguards are not compulsory except where they form part of the external bodywork and are required to be fitted in accordance with the Regulation pertaining to bodywork above. Where optional mudguards are fitted they must be adequate for the purpose, properly and safely constructed, and securely mounted.

## **1.7 WHEELS & TYRES:**

All wheel rims and hubs must remain as per original fitment in terms of size and design, including the use of any aftermarket reproduction items, and must remain of metal construction. Original split wheel rims can be exchanged for any aftermarket item of original rim diameter, including Tino Sachi alloy split rims, AF/SIP tubeless rims. Tyres must be treaded and not deviate from original specification section by more than 13mm.

## **1.8 FOOTRESTS & FOOT CONTROLS:**

Footrests, which may comprise the original platform, must be provided and be so designed and positioned that easy access is available to all control pedals. Riders must adopt a position with their feet on the footrests or they will be disqualified. Proprietary (i.e. branded aftermarket) and self-manufactured rear-sets are acceptable for use on Standard Class machines. Any such item, whether off the shelf or self-manufactured will be assessed for safety and operability during technical inspection. Affected bodywork may be adapted to allow their safe fitting and operation – any such alteration to bodywork is limited to a maximum of 10mm from the Footrest and/or foot control, allowing for suspension travel where appropriate. [See Guidance Note]

The related control cable may be changed to allow for quick release and/or maintenance and the method of fitting may be changed to provide safer retention i.e. replacing the circlip style fitting used on later machines with a tapped bolt solution. Where riders chose to retain the original manufacturer positioning for foot controls these shall remain as per the original manufacturer's specification and positioning.

## **1.9 STREAMLINING:**

For Standard Class Machines the provision of streamlining is prohibited.

## **1.10 SUSPENSION, COMPRESSION SPRINGS AND DAMPING:**

For Standard Class Machines all suspension links, legs, yokes, swing arm or other similar component of the front and/or rear suspension assembly shall remain as manufacturer's original specification. Springs, dampers and "suspension units" may be replaced with non-original components but must be mounted in secure manner identical to that of the original component for the marque/model. Anti-Dive systems are permitted.

## **1.11 BRAKES:**

The braking system must consist of two efficient brakes operated independently, one on each wheel:

Rear Brake - Hub and brake shoes must function as per original specification, though the brake shoes/linings can be upgraded to aftermarket items.

Front Brake - Any commercially available single caliper outboard hydraulic brake is permitted, 4-pot maximum. The use of a non-standard hub is permitted, only if supplied as part of the manufacturers disc-brake assembly. Original marque hubs can be converted to utilise the use of a single caliper (4-pot max). So to can an original in-board disc brake be upgraded (Lambretta's only) to utilise a single hydraulic piston conversion.

## **1.12 FUEL TANK:**

For Standard Class Machines the fuel tank shall remain as the manufacturer's original specification and position.

All fuel tanks must be provided with a securely fitted filler cap fitted in such a way that it does not protrude from the bodywork and cannot be torn off in an accident. A fuel feed tap must be fitted in an easily accessible position and be prominently marked to indicate the "OFF" position. Any fuel tank breather pipe must be fitted with a non-return valve and must discharge into a leak-proof catch tank having a minimum capacity of 500 ml, which must be empty at technical inspection. All fuel pipes must be adequately secured.

## **1.13 ENGINE AND DRIVE UNITS:**

The engine and drive unit must have originated from the same type of motor scooter as the frame and the drive must be transmitted to the road through the rear wheel of the motor scooter. The unit shall be properly and safely finished with all necessary studs, nuts, bolts and washers securely fitted. There shall be no evidence of oil leaks.

## **1.14 CRANKCASE:**

Crank casings must be as manufacturer's original specification, except that:

- a) Modifications may be made to permit the use of a larger section tyre subject to the limitations defined within these regulations below.
- b) Modifications may be made to better match the cylinder transfers to the crankcases except that the provision of additional material on either the inside or the outside of the casing is prohibited.
- c) Notwithstanding the exception in 'b' above, the provision of additional material to effect genuine repairs to a crankcase will be permitted provided that the final dimensions and appearance do not exceed the manufacturer's original specification.

d) Small & large frame Vespa's may utilise aftermarket 'cast' type casings but only ones fitted with standard cylinder stud spacing. Only the large frame Vespa can utilise reed induction via the engine casing inlet port.

#### **1.15 GEARCASE:**

The gear casing must be as manufacturer's original specification.

#### **1.16 GEARBOX & GEARING:**

The gearbox must be as manufacturer's original specification for the engine type, except that the original gear cluster may be altered to provide alternative ratios. The thickness of the original loose gears may be altered but the original gear teeth must remain. The number of ratios must remain unchanged. The use of non-standard ratios within the Standard Classes is strictly prohibited. Remanufactured Gear Box Components are permitted providing that they comply with this regulation.

**Lambretta** – Any commercially available front & rear Primary Drive sprocket ratios can be used to suit gearing for different circuits. The chain tensioner may be uprated to an aftermarket item (pull down or pull up) enabling the use of different chain lengths to suit. The lower chain guide may also be uprated or removed.

**Vespa Small & Large Frame** – Any commercially available Primary Drive gear ratios can be used to suit gearing for different circuits.

#### **1.17.1 REED VALVE Induction Cylinder Kits:**

Only the following aftermarket cylinder kit specifications are permitted, with the noted restrictions:

*Please note: you will require to add in the vicinity of the 'bore x stroke' sticker a further sticker noting your chosen cylinder Kit. For example: RB20 / Imola / Malossi...*

#### **Lambretta Small Block engine casings, up to 200cc kits:**

Any commercially available small block cylinder kit utilising standard 58mm stroke and maximum 66mm bore.

#### **Vespa small frame engines, up to 145cc kits:**

Any commercially available reed valve cylinder kit utilising standard 51mm stroke and maximum 60mm bore.

#### **Vespa large frame engines, up to 210cc kits:**

Any reed valve cylinder kit or non-reed valve cylinder kit with reed induction via the engine casing inlet port utilising standard 57mm stroke and maximum 68.5mm bore.

#### **1.17.2 Permissions and Restrictions:**

- a. **Cooling:** Flywheel fan cooling must remain utilising all original type cowlings. Scoop or any type of forced air cooling is prohibited. Any form of water cooling is also prohibited.
- b. **Pistons:** Replacement pistons of the same kit diameter can be used. Both the kit piston and a replacement piston can be modified to better match the cylinder ports at the skirt but cannot be welded, lightened or re-profiled.
- c. **Cylinder:** Must mount to the original stud spacing and positioning (no flange kits or adaptor plates).

*(Lambretta 64mm bore kits can be bored to 66mm and re-plated, such as the Super Imola and GT kits. The ports must remain unaltered during this process).*

No part of the cylinder transfers (feed ducts or port exits) can be modified - any polishing, widening, lowering or raising of the transfers is prohibited. Also, any alteration to the inlet port or reed block is also prohibited. All must remain untouched, as stock.

However, the exhaust port(s) timing can be adjusted in its height and width and can be matched through to the exhaust stub/flange. No additional exhaust ports can be added to the cylinder nor the bridging of any existing ports. A base packing plate up to a maximum of 10mm can be utilised to reposition the port timings up or down from stock, or in conjunction with a different piston compression height, conrod length or cylinder head.

- d. **Cylinder Head:** Any commercially available cylinder head can be used, off-set or central spark plug type. Modifications are permitted, which includes recessing into the cylinder bore. However, the head must retain the use of the cylinder kit securing points and must remain fan cooled.

- e. **Crankshaft:** Any aftermarket crankshaft is allowed but the stroke must remain as stated above for your chosen machine. For the avoidance of doubt no short or long stroking is allowed in this class. The conrod type and length may be changed and the big end pin can be welded.
- f. **Engine Casing:** Transfer ports can be matched to the cylinder kit. So too Vespa reed valve kits. However, no welding to the casings or cylinder kit is allowed.
- g. **Ignition and Flywheel:** Any original or aftermarket 'Road Ignition System' is allowed, including those with a single 'advance/retard curve' (no alternative map options or programmable units allowed) and must be used in kit form using the supplied stator, flywheel and CDI. Standard original Flywheels may be lightened. No modification or add-ons to the ignition system is allowed. All lighting coils must be retained and wiring visible.
- h. **Exhaust:** Any exhaust system can be utilised but must be fitted in the standard position and follow the original routing. The direction of the Header Pipe exit from the cylinder and routing may be altered to allow for maximum ground clearance. However, the exhaust shall exit following the manufacture's original side routing of the machine providing that the tailpipe does not exceed beyond the rear most extremity of the frame. [See Guidance Note. The use of variable exhaust valves on expansion systems is prohibited. Current ACU noise limits must be adhered.
- i. **Carburettor and Reed Block:** Maximum carburettor size permitted is 36mm, flat or round slide versions can be used but must be of non-power jet type. The carb bore may be 'polished' but no add-ons or other modification is allowed. The Reed Block must also remain unmodified and fitted only with the kit supplied petals. Use of a thumb choke is permitted, so too an air filter.

#### **1.18 GUIDANCE NOTES:**

1. Minor modifications to panelling will be permitted to allow the fitting of larger carburettors, footrests, exhausts, and similar but trimming or reducing and/or adding to original specification dimensions are prohibited. For the avoidance of doubt any such trimming modifications must not exceed beyond 10mm of the required aperture to allow for the fitment of these items.
  - a) Carburettor – A hole in the panel is permissible to allow for improved air intake or the fitting of a suitable bell mouth extension/air filter. The size of this hole must not exceed 10mm beyond the outside diameter of the Carburettor and/or the bell mouth extension/air filter.
  - b) Footboards – Trimming to allow for the fitment of the exhaust and or rear sets is permissible. The extent of trimming must not exceed 10mm beyond that required allowing for the safe and foul free fitting of the component within the confines of the maximum suspension travel.
  - c) Side Panels – Trimming to allow for the fitment of the exhaust and or rear sets is permissible. The extent of trimming must not exceed 10mm beyond that required allowing for the safe and foul free fitting of the component within the confines of the maximum suspension travel.
2. Any shape of handlebar casing is permitted provided that it is manufactured to the original manufacture's specification and that it is fitted in the original mounting position only. As an example, any model of Lambretta Series 3 headset would be permissible on a similar Series 3 machine. The same goes for small frame and large frame Vespa's. For the avoidance of doubt fitting a Series 3 Li or SX style handlebar/headset assembly to a Series 3 GP would be allowed and a PK or 50 Special to a Primavera / Rally to a PX. But the fitting of a Series 2 or Series 1 assembly to a Series 3 machine and vice versa would not be permitted, a small frame to a large frame and vice versa also.
3. For Standard Class Machines exhaust systems must be basically fitted in the standard position and follow the original routing. The direction of the Header Pipe exit from the cylinder and routing may be altered to allow for maximum ground clearance. The exhaust shall exit following the manufacture's original routing to the right hand side of the machine. As an example, the exhaust on a Full Frame Series 1–3 Lambretta may follow a routing away from the cylinder towards the rear of Moto Scooter and on the left hand side of the machine when sitting in a forward facing position. The pipes routing shall then follow the original direction of the exhaust as per the manufacturers design for road going machines. The exhaust shall exit following the manufacture's original routing to the right hand side of the machine.

|                | <b>Version Amendments</b>   |
|----------------|---|
| V2<br>28.01.18 | <i>1.3 Bodywork - more clarity on rear runner boards added.</i>   |
| V3<br>12.02.18 | <i>1.17.1 - sticker requirement added on chosen cylinder/exhaust.</i>   |
| V4<br>31.01.19 | <i>1.14.d - Vespa aftermarket casings permitted<br/>1.17.2.c - exhaust port modification permitted<br/>1.17.2.h - exhaust choice now open<br/>1.17.2.i - removed restriction on Vespa inlet port widening, in line with aftermarket casing. (AGM motions)</i> |
| V5<br>27.12.20 | <i>1.4 Handlebars - QA throttle &amp; brake guard permitted, accepted AGM motion.</i>   |
| V6<br>09.01.22 | <i>1.4 - Handlebars - replica bars now allowed.<br/>1.11 Brakes - can now utilise any commercially available front brake assembly, (AGM motions)</i>  |
| V7<br>23.01.22 | <i>1.16 - Primary choice now aligned with Production class (DD).<br/>1.17.2 a,b,c,d - removed ambiguity and type of allowed cylinder head (committee).</i>  |