

Sound level control

For 2019 two sound test methods will be employed.

- 1 The existing static RPM test
- 2 The FIM 2 Metre Max test.

Both tests are internationally approved.

STATIC TEST METHOD

The sound level meter microphone to be placed 500mm from the exhaust pipe end, at an angle of 45 degrees measured from the exhaust centre line as near as possible to the height of the exhaust end, at least 20cm above the ground.

During a sound level test, machines not equipped with a gear box neutral must be placed on a stand.

The driver shall keep his engine running out of gear and shall increase the engine speed until it reaches the specified RPM.

Measurements must be taken when the specified RPM level is reached. The RPM depends upon the mean piston speed corresponding to the stroke of the engine (see the stroke/RPM table).

2 METRE MAX METHOD

The set up of the sound meter and the motorcycle.

The sound levels will be measured with the sound meter/microphone fixed on a tripod, in the horizontal position, at the rear of the motorcycle.

The sound meter will be positioned at a distance of 2 metres behind the motorcycle, with an angle of 45 degrees away from the centerline, on the exhaust side and at a height of 1.35m above the ground. The 2m distance is measured from the point where the centre of the rear tyre touches the ground. The throttle is opened to maximum for no more than 1 second or before the rev limiter is reached.

It is preferred to make the tests on a soft ground, not reverberating, i.e grass or fine gravel.

The test should only be carried out after engines have been "warmed up" to operating temperature.

The ambient sound level must remain lower than 95–100 dBA.

There is no tolerance for temperature.

Whichever test method is in use temporary silencers, bypass pipes or the inclusion of temporary parts to achieve the silencing requirements are prohibited.

FIM & ACU MAXIMUM SOUND LEVELS

See current Standing Regulations

ROAD RACING AND TT SEE ROAD RACE STANDING REGULATIONS

No change to Sound tests, the existing Static RPM test will be used.

MOTOCROSS

Two tests will be in operation.

- 1 The Static test method – For Twinshock and Evo classes only.
- 2 The FIM 2 Metre Max Test – For machines post 2011.

SOLO

- For machines 2013 and onwards – maximum sound limit 112dB/A (+2 dB/A before each race, +3 dB/A after the race) tested using the 2 Metre Max method. Type 1 and Type 2 meters.
- For 2010–2012 machines – maximum sound limit 115 dB/A (+2 dB/A before each race, +3 dB/A after the race) tested using the 2 Metre Max method. A further review to be made at the end of 2019.

SIDECARS

Maximum sound limit for 2 stroke engines at 112 dB/A (+2 dB/A before the race, +3 dB/A after the race). For 4 stroke engines at 115 dB/A (+2 dB/A before the race, +3 dB/A after the race) tested using the 2 Meter Max method.

A further review to be made at the end of 2019.

QUADS

Maximum sound limit 112 dB/A (+2 dB/A type 1 & type 2 meters before each race) (+3 dB/A type 1 & type 2 meters after each race) tested using the 2 Metre Max method.

A further review to be made at the end of 2019.

PROCEDURE

All machines shall be sound tested using the 2 Metre Max method, the exceptions being Twinshock and Evo classes. The static test will prevail with a test limit of 96 dBA for 2 strokes and 94 dBA for 4 strokes, using the fixed RPM according to the list below, with the exception of the 500cc class.

Up to 85cc 8,000rpm

Over 85cc up to 125cc 7,000rpm

Over 125cc up to 145cc 6,500rpm

Over 145cc up to 250cc 5,000rpm

Over 250cc up to 500cc 4,500rpm

Over 500cc 4,000rpm

There is no 2 stroke/4 stroke rev differential below 500cc. Due to the influence of temperatures on sound tests, all figures are correct at 20°C. For tests taken at temperatures below 10°C there will be a + 1 dBA tolerance. For tests below 0°C, a + 2 dBA tolerance.

There will be a + 2 dBA tolerance allowed for post race sound tests.

MACHINES POST 2011

The FIM 2 Metre Max Test Method will be enforced as previously detailed.

The maximum sound limit accepted: 115 dBA+ 1 dBA post race.

A sound level of 81 dBA at 100 metres during racing should be attained.

TRIALS & ENDURO

TRIALS

Only the 2 Metre Max test method will be used as previously detailed.

The maximum sound limit accepted will be 100dBA before the Start (+2 dBA during or after the event).

ENDURO

Only the 2 Metre Max test method will be used as previously detailed.

The maximum sound limit accepted will be 112 dBA before the Start (+2 dBA during or after the event).

GRASS TRACK, LONG TRACK & BEACH RACE

The FIM 2 Metre Max test will be utilised as previously detailed and directed below.

CLASSES

500cc Solo and Sidecar classes

Machines to be fitted with the 2010 FIM homologated silencer. Ref TRS 2010.

Any machine using an alternative silencer will be subject to Sound Control using the FIM 2 Metre Max test method.

250cc and 350cc Solo classes

Can use the 2005 or later FIM homologated silencer.

Any machine using an alternative silencer will be subject to Sound Control using the 2 Meter Max method.

Pre 75 and Upright Solos classes

As for 250cc and 350cc classes as detailed above.

1000cc Sidecar class

Silencer construction is free.

Machines will be subject to sound control using a "Ride By" method with a maximum sound level of 85 dBA.

If a rider disputes the results of the "Ride By" test the machine will be tested using the "2 Metre Max" method, see the Grass Track Rules 4.14.

2 METRE MAX TEST

The maximum sound limit accepted will be 115 dBA (+2 dB/A before the race, +3 dB/A after the race).

A SOUND LIMIT of 81 dBA at 100 metres.

SPEEDWAY

Maximum sound level using the 2M Max Test, at 11,000 RPM. 112dBA other than machines using FIM 2015 Homologated Silencers.

GENERAL

STATIC RPM TEST

The ambient sound level within a 5 metre radius from the machine being tested should be at least 10 dBA below the maximum level permitted for the discipline.

FIM 2 METRE MAX TEST

The ambient sound level within a radius of 10 metres of the machine being tested should not exceed 100 dBA.

SOUND METRES

Sound level meter minimum standard for enforcement are IEC 651 IEC 60651 or IEC 61672 Type 2.

SOUND CONTROL – RPM FIGURES – APPLICATION

13metres/sec – TWO STROKES i.e. Road Racing where applicable.

11 metres/sec – FOUR STROKES i.e. Road Racing where applicable and ALL Trials and Enduro machines (two and four stroke).

Stroke in mm	Mean Piston Speed 13m/sec	Mean Piston Speed 11m/sec	Stroke in mm	Mean Piston Speed 13m/sec	Mean Piston Speed 11m/sec
30	13000	11000	66	5909	5000
31	12580	10645	67	5820	4925
32	12187	10313	68	5735	4853
33	11818	10000	69	5652	4783
34	11470	9706	70	5571	4714
35	11142	9429	71	5492	4648
36	10833	9167	72	5416	4583
37	10540	8919	73	5342	4521
38	10263	8684	74	5270	4459
39	10000	8462	75	5200	4400
40	9750	8250	76	5132	4342
41	9512	8049	77	5065	4286

42	9285	7857	78	5000	4231
43	9069	7674	79	4937	4177
44	8863	7500	80	4875	4125
45	8666	7333	81	4815	4074
46	8478	7174	82	4756	4024
47	8297	7021	83	4699	3976
48	8125	6875	84	4643	3929
49	7959	6735	85	4588	3882
50	7800	6600	86	4535	3837
51	7647	6471	87	4483	3793
52	7500	6346	88	4432	3750
53	7358	6226	89	4382	3708
54	7222	6111	90	4333	3667
55	7090	6000	91	4286	3626
56	6964	5893	92	4239	3587
57	6842	5789	93	4194	3548
58	6724	5690	94	4149	3510
59	6610	5593	95	4105	3474
60	6500	5500	96	4063	3438
61	6393	5410	97	4021	3402
62	6290	5323	98	3980	3367
63	6190	5238	99	3939	3333
64	6093	5156	100	3900	3300
65	6000	5077			