



2026

MSA MAIN CIRCUIT GUIDELINES

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REVIEW AND AMENDMENTS

Amendments and updates to the rules will be recorded in the Amendment Record, detailing the updated version, date of approval of the amendment and a short summary of the amendment.

AMENDMENT RECORD

<i>Modified SSR / ART</i>	<i>Date applicable</i>	<i>Date of Publication</i>	<i>Clarifications</i>

CONTENTS

DEFINITIONS	2
1. OBJECTIVE	3
2. CIRCUITS	3
3. PLAN (NEW VENUES FROM 2026)	3
4. WIDTH (NEW VENUES FROM 2026)	4
5. LONGITUDINAL PROFILE (NEW VENUES FROM 2026)	4
6. TRANSVERSAL INCLINATION, DRAINAGE (NEW VENUES FROM 2026)	4
7. STARTING STRAIGHT (VENUES FROM 2026)	4
8. TRACK EDGES, VERGES AND RUN-OFF AREAS	5
9. TRACK SURFACE	5
10. STARTING STRAIGHT	6
13. PROTECTIVE MEASURES	6
14. CIRCUIT BUILDINGS AND INSTALLATION	6
15. MEASUREMENT OF CIRCUIT LENGTH	7
16. FACILITIES FOR THE DISABLED	7
17. ACCIDENT REPORTING	7
18. CIRCUIT MAINTENANCE	7
19. TRACK SURFACE	7
20. TRACK EDGES, VERGES AND LATERAL AREAS	8
21. GUARDRAILS	8
22. TYRE BARRIERS	8
23. SPECTATOR AND DEBRIS FENCING	9
24. KERBS	9
25. DRAINS AND DRAINAGE	9

26.	CIRCUIT DEMARCATION LINES	9
27.	ARRESTOR BEDS	9
28.	BARRIER REPAIR	9
29.	PARC FERME	9
30.	SCALE	9
31.	PRESCRIBED SCRUTINEERING AREA – PRE EVENT SCRUTINY	10
32.	FIRE-FIGHTING EQUIPMENT	10
33.	FIRE EXTINGUISHERS	10
34.	FIRE ENGINE	10
35.	TIMING OFFICE	10
37.	MEDIA ROOM	10
38.	COMMENTATING OFFICE	10
39.	PUBLIC ADDRESS (PA) SYSTEM	10
40.	INTERNET	10
41.	ABLUTION FACILITY'S	11
42.	MEDICAL ROOM/S	11
43.	ELECTRICAL POWER	11
44.	RACE OFFICE	11
45.	RACE CONTROL ROOM	11
46.	MARSHAL EQUIPMENT & POSTS	11
47.	VENUE MODIFICATION AND APPROVAL REQUIREMENTS	12
	APPENDIX 1 – TYRE BINDING	13

DEFINITIONS

The following definitions apply to the terms used in these guidelines:

FIA: Fédération Internationale de l'Automobile

FIM: Fédération Internationale de Motocyclisme

MSA: Motorsport South Africa

COC: Clerk of the Course

Course: a road or track, as well as the facilities that are utilised for car/motorcycle competitions/events. Depending on the type of installations and competition availability, a course may be permanent, semi-permanent, or non-permanent.

Permanent Course: a course with a permanent track and all of its facilities that are always available for car/motorcycle competitions/events.

Semi-permanent course: a course where part of the installations and track are permanent while the rest are temporarily installed for a specific competition/event.

Non-permanent course: a course that is prepared temporarily for a specific competition/event.

Track: a road explicitly constructed or modified for motorsport competition use. The track is bounded by the outer edges of the racing surface, as defined by the circuit markings, kerbs, or other track limit indicators.

Circuit: a closed course designed or modified especially for car/motorcycle racing that starts and ends at the same location and can be permanent, semi-permanent, or non-permanent depending on the nature of its installations.

Temporary Drifting venue: a course temporarily prepared for a Drifting competition/event.

1. OBJECTIVE

MSA, the MSA Safety Panel, and its inspectors will use these guidelines when evaluating tracks that are to hold events on the MSA calendar. While these Guidelines provide a framework for evaluation, they may be subject to interpretation depending on the specific circumstances of each case. Parties involved in planning and building of new circuits or altering existing circuits are encouraged to abide by the provisions contained in the Guidelines.

The Guidelines are specifically a component of the system that regulates competitions and events that are sanctioned by MSA. This system includes a number of components, such as the issuing of permits and the regulation of technical and safety requirements. Installations and configurations may vary from those described in the case of circuits built or altered before publication of these Guidelines.

MSA makes no representation or warranty that these Guidelines comply with any local laws, safety standards or regulations. Additionally, circuits used for competitions or events not sanctioned by MSA fall outside the scope of these Guidelines.

2. CIRCUITS

Layout (New venues from 2026)

These principles do not restrain the shape of the course, either in plan or profile, as this is determined by a number of variable factors, including the type of competition for which the course is designed, the characteristics of the terrain, economic concerns, aesthetics, tradition, etc. Nonetheless, the circuit building must adhere to the technical standards outlined in these regulations.

3. PLAN (NEW VENUES FROM 2026)

Although MSA may suggest modifications in the interest of fair competition or for practical reasons, the plan's course form is unrestricted. For track segments that are straight, the maximum allowed length is two (2) kilometres. The overall length of the track should be determined to meet the minimum requirements listed for competition. It is advised that any new circuit should not be longer than five (5) kilometres. The track's centerline is used to determine a circuit's length for the purposes of calculating race distances, race records, and classifications. Unless otherwise specified, all references to straights and curves in these criteria relate to the **actual trajectory taken by the highest-performing vehicles**, rather than the purely geometrical layout of the circuit. When plotted on a plan, this trajectory will typically result in **shorter straights and longer curves**. All references to straights and curves in these criteria, unless

otherwise noted, refer to the actual path taken by the vehicles with the best performance, rather than the geometrical form of the layout (the trajectory, when traced on the plan, will generally have the effect of reducing the straights and elongating the curves: Designers should therefore take this trajectory into account when planning or modifying a course).

4. WIDTH (NEW VENUES FROM 2026)

A minimum of ten (10) metres track width should be considered when designing new permanent courses. Track width adjustments should be made as gradually as possible, with a maximum transition rate of one (1) metres per twenty (20) metres of total width.

The starting grid should be at least ten (10) to twelve (12) metres wide, and must be maintained until the first corner exit (shown by the racing line).

5. LONGITUDINAL PROFILE (NEW VENUES FROM 2026)

Convex or concave gradient changes must be done with vertical radii that are suitable for the vehicles performance. As a general principle, gradient changes should be avoided in areas with high-speed braking, curves, or the strongest acceleration. The start/finish straight's gradient should not exceed 2%.

6. TRANSVERSAL INCLINATION, DRAINAGE (NEW VENUES FROM 2026)

For drainage considerations, the transversal gradient between the track's two edges or between the centerline and the edge (camber) on straight sections shall not be greater than 3% (1.7°) or less than 1.5% (0.9°).

With rare exceptions, like speedways or oval tracks, the banking (downwards from the outside to the inside of the track) in corners should not exceed 10% (5.7°). As a general principle, an adverse inclination is unacceptable unless there are exceptional conditions, in which case the entry speed should not exceed one hundred and twenty-five kilometres per hour (125 kph).

Based on the trajectory and taking point 7 below into account, any change in transversal incline should have sufficient altimetrical transitions, especially throughout the entry and departure parts of a planimetric curve.

During the planning phase, systems for sufficient water drainage from the paddock, pit lane, track, and public areas must be given first importance. To divert water away from the track and towards the verge, a series of transverse grooves may be carved into the asphalt in areas where water is known to collect on the track.

For new courses, especially those with asphalt link sections, a designer should demonstrate to the MSA that surface water flow has been sufficiently taken into account.

7. STARTING STRAIGHT (VENUES FROM 2026)

CARS

Each car should have a minimum of 4 metres of grid space for standing starts. The distance between the start line and the first corner should ideally be at least two hundred and fifty (250) metres.

Only in certain situations is a change of direction of at least forty-five degrees (45°) with a radius of less than three hundred (300) metres considered a corner.

MOTORCYCLES

The positions on the starting grid must be indicated on the track with paint as follows:



Length of track available for each row: 9 m. Machines must be positioned “in echelon” on the grid in staggered lines, thus leaving the space in front of each machine free in the preceding row. There will be 9 metres between each row of the Starting Grid. A minimum of 14 rows should be painted.

8. TRACK EDGES, VERGES AND RUN-OFF AREAS

Unless otherwise specified due to features like pit exit and entry roads, a permanent track should have compact verges with an even surface, typically between one (1) and five (5) metres wide, and continuous white lines that are clearly marked in anti-skid paint along its entire length on both sides. These lines should be clearly visible and at least ten (10) centimetres wide. Any transition between the track and verge must be extremely gentle, with the verges being a continuation of the track's transverse profile. An area of ground between the first line of defence and the fringe is known as a run-off area. It is necessary to grade a run-off area to the edge. With regard to the lateral projection of the track surface, if the terrain slopes, the gradient should not be more than 25% upward (this does not apply to gravel beds) or 3% downward, with a seamless transition from track into the run-off area.

9. TRACK SURFACE

The track surface should be smooth and similar to that seen on conventional highways to help avoid the formation of a liquid layer caused from fuel, oil, or rain.

Ideally, the surface should be consistent across the entire track. If this is not feasible, it should be ensured that no surface changes at significant longitudinal profile changes, curves, or areas of strong braking or acceleration. Resurfacing work should not be carried out less than thirty (30) days before a race event.

In both longitudinal and lateral senses, the track's plane depends on the roadway's geometrical shape. This means that the surface's plane equality should be free of undulation. The track surface and the pit lane's fast lane shall not be allowed to be decorated or used for advertising purposes.

NOTE: Drag Strips: the aforementioned features, particularly the anti-skid qualities in wet conditions, will be altered if any area of the circuit is prepared or used for drag racing.

The start area and/or timed dragstrip segment should not be included in any asphalt run-off areas or track surface areas for new circuits, nor should they be included in an existing circuit.

Before a permit may be issued, existing circuits with dragstrips must show the MSA inspector that all surfaces have been cleared of excessive rubber deposits.

At any circuit that hosts drag racing and uses the existing track, peel outs and/or burnouts are strictly prohibited on the racetrack. This will be a continuous requirement for the MSA permit's validity for circuit racing.

Any sections of the circuit that are frequently treated with chemicals for drag racing starts should be resurfaced and/or moved outside of the racetrack and its run-off zones, before requesting approval from MSA.

The use of a circuit racing surface for drag racing activities, including the application of track-preparation substances is subject to strict conditions. The promoter must submit a detailed surface management plan to MSA for approval. This plan must outline the procedures for surface preparation and for returning the track to its original state for circuit racing. Failure to restore the surface to a condition deemed safe by the MSA Inspector will result in the suspension of the MSA track approval until rectified. A penalty as per GCR 172 may be imposed for non-compliance.

10. STARTING STRAIGHT

Each car should have a minimum of four (4) metres of grid space for standing starts. The distance between the start line and the first corner should ideally be at least two hundred and fifty (250) metres for cars. Motorcycles refer to point 7.

11. START LIGHTS

The Start lights need to be red lights.

There must be a minimum of three (3) red lights alongside each other and visible to all the competitors on the grid. Should for whatever reason extra lights need to be installed further to the back of the grid, this will be determined by the MSA circuit inspectors.

12. GRID MARKINGS

Grid Marking drawings are available from the MSA Safety Panel through MSA Head Office.

13. PROTECTIVE MEASURES

The course's features including track layout and profile; topography; racing trajectories; nearby areas, buildings, and constructions, and the speed reached at any given point on the track should be taken into account when deciding on safety precautions for competitors, spectators, race officials, and service personnel during competitions.

Various deceleration devices as well as energy-dissipating and stopping barriers may be deployed as a first line of defense to absorb the energy of a vehicle and/or create conditions for the driver to regain control.

Such installations may include energy-absorbing barriers, stopping barriers, deceleration beds with the proper aggregate, grass or sealed surface run-off areas, or a combination of these measures. In general, a continuous, vertical barrier is needed when the estimated impact angle is low, while energy-dissipating devices and/or stopping barriers are needed where the angle of impact is higher. Depending on the anticipated approach and turning speeds on the track, run-off areas, where available, will mostly be located on the outside of the corners and may normally range from about thirty (30) to one hundred (100) metres in depth.

Furthermore, additional safety measures may be required for areas accessible to the public. Such areas should be situated at or above the track boundary where possible. Public access to any areas, as well as the conditions under which spectators are permitted to occupy these spaces, must comply with the applicable legislation of the circuit's local municipal by-laws.

14. CIRCUIT BUILDINGS AND INSTALLATION

The requirements for facilities such as Race Control, Timing Room, Marshal Posts, Pits, Paddock area, Medical Centers, and so on, vary depending on the type of competition being held. Each project should be developed in collaboration with circuit management, and where requested, MSA.

A pit lane at least ten (10) metres wide is required for all new circuits built from 2026, complete with pit garages and race control facilities.

These facilities should be located adjacent to the starting straight, divided by a pit wall as per the FIA specification that are available from the MSA Safety Panel through the MSA Head Office.

Adequate pit entry and exit lanes allowing competitors to leave and rejoin the track at points that do not interfere with the racing line. Bridges and/or tunnels for personnel, trucks, and emergency services to travel from the inside to the outside of the circuit must be considered during the planning stage as this may significantly alter the layout.

15. MEASUREMENT OF CIRCUIT LENGTH

For the purposes of calculating race distances, race records, and class classifications, the length of a circuit is defined as the track's centerline.

The track's centerline is the middle line between the left and right margins of the track's asphalt, as defined by the requisite white lines; this is especially important for circuits on public or city streets.

The longitudinal profile of the circuit must be determined using either vertical circular curves or a sequence of centerline levels spaced at intervals of at least ten (10) metres, with an accuracy of zero point zero one (0.01) metres.

The official track length will be estimated with an accuracy of one (1) metre by combining the horizontal track length and the longitudinal profile.

16. FACILITIES FOR THE DISABLED

The requirements as per the MSA Environmental code and the local area by-laws should be used for the purposes of persons with disability.

17. ACCIDENT REPORTING

Whenever an accident occurs during testing or competition that results in damage to any circuit installations (including incidents that demonstrate the effectiveness of such installations during a high-energy impact), the circuit owner shall be responsible for ensuring that

- All safety features remain compliant at all times
- Any damage is reported to MSA and repaired
- An inspection may take place after repairs have been conducted to ensure compliance.

If safety is compromised, officials (Clerk of the Course, MSA Stewards, Safety Officer, MSA Safety panel Inspector) can:

- Delay or stop events
- Declare the circuit unsafe

MSA reserves the right to revoke permits where such damage may compromise the safety of a future race event.

18. CIRCUIT MAINTENANCE

The MSA permit requires proper maintenance of the circuit and all its installations at all times; the circuit should be reviewed not only before the competition by the COC and Safety Officer which were appointed, but also after a competition to assess the damage and establish a repair strategy.

The primary components that require regular care include, but are and not limited to:

- a. Tyre walls
- b. Retainer Walls
- c. Armco Railings
- d. Debris fences
- e. Refilling of fire extinguishers
- f. Replacement of mopping up material

19. TRACK SURFACE

To be cleaned and in good condition. Surface cracks should be treated and sealed regularly to prevent any water seepage below the macadam.

20. TRACK EDGES, VERGES AND LATERAL AREAS

All edges, verges, and lateral areas should be level with the track's edge, including all regions behind kerbs that need filling and leveling. Trim the grass in all grass-covered areas and any dry grass or plants are to be removed. Vegetation should be removed from gravel beds.

All lateral areas, up to the first protection, should be kept free of obstructions.

21. GUARDRAILS

Circuit management should inspect all guardrails and supports on a regular basis to verify they are structurally sound. Proper overlaps must be maintained for the direction of the circuit. The maximum gap between the bottom rail and the ground, as well as between the top rails, should not exceed 4 cm. The maximum gap between the bottom rail and the ground should not exceed **150mm**. The gap between subsequent rails should be determined by the overall barrier design to effectively contain the types of vehicles competing at the venue, subject to approval by the MSA Safety Panel.

It is recommended that steel supports be used when replacing, or on newly manufactured circuits approved after 2019 however, MSA will permit the continued use of wooden poles as guardrail supports.

The support poles (wooden or steel) must be fully upright at all times and must not lean.

Guardrail fastening bolts must have a Coach type screw head to secure the guardrail and must not be loose.

Drawings of such guardrail installation requirements are available from the MSA Safety Panel through MSA Head Office.

NOTE:

The use of steel poles/uprights to secure the guardrail has been mandatory since 2019 for new circuits. However, for local non-FIA circuits, wooden poles will be acceptable, provided all other measurements are compliant.

For circuits constructed or undergoing major renovation after 01 January 2019, steel guardrail supports are mandatory. For existing circuits constructed prior to this date, wooden poles remain acceptable, provided they are in sound condition and meet all other structural and installation requirements as verified by regular MSA safety inspections

22. TYRE BARRIERS

Tyre barriers should be verified for a sturdy attachment to existing structures and a tight fit together. Tyres should be properly fixed in piles prior to installation.

The method to be used generally should be in packs of six (6) tyres bolted together using an 8mm bolt and nut, together with a 2mm thick washer, having an outside diameter of 40mm. The alternative option, to use a 5mm TEK screw together with a minimum of 1.8mm thick washer having an outside diameter of 40mm is permitted by MSA.

Tyre packs may also be a minimum of three (3) tyre stacks high, bolted as per above for ease of moving the tyre pack. The tyre packs (three (3) pack or six (6) pack) must be strapped to the next three (3) or six (6) pack by means of steel strapping. (The use of nylon strapping is permitted provided that double nylon strapping is used in place of steel strapping in high impact zones). For clarification strapping with double nylon strapping each double strap must have an individual buckle.

Drawings of such are available from the MSA Safety Panel through MSA Head Office.

Retainer Walls

Tyres can be used to build retainer walls; these will be specifically noted by the circuit inspectors.

23. SPECTATOR AND DEBRIS FENCING

These fences should be checked and tested on a regular basis for support and strain. Checking the fences for degradation must be carried out on a regular basis.

24. KERBS

Kerbs should be regularly inspected for damage. Broken kerbs should be repaired or replaced quickly. When repainting kerbs, avoid accumulating paint thickness.

All paint used for lines and kerbs must have an Anti-slip product mixed in.

25. DRAINS AND DRAINAGE

Drains must be inspected and cleaned regularly and must be in proper working order at all times. Any drain covering must at all times be properly secured so as to prevent it from coming loose or being dislodged from its fixing.

26. CIRCUIT DEMARCATION LINES

All demarcation lines for track, pits, and grid markings should be kept clear and tidy, and preferably repainted annually. Acceptable paints are SABS approved Road Marking Paint or a good quality Roof Paint with any anti-slip product mixed with the paint.

27. ARRESTOR BEDS

All arrestor (gravel) beds must be built such that stranded vehicles can be quickly recovered from them. Any vegetation must be removed, the infill material turned over on a regular basis to avoid compaction, and additional material added as needed to ensure the surface is level with the surrounding terrain. Arrestor beds must be a minimum of 250mm deep and should preferably consist of spherical shaped stones or similar, of between 5 to 15mm in size. Angular shaped (crushed stone) is not advised.

28. BARRIER REPAIR

When repairing a circuit's safety elements, it's important to guarantee that the repaired barrier maintains its original safety performance.

If this is not possible, the barrier should be replaced with one that provides a comparable or higher level of safety.

Damaged barriers noted or observed by the COC at a pre-event inspection of the circuit, or any damage incurred during an event will be brought to the attention of the circuit management.

This will be further included in the COC report.

29. PARC FERME

The parc fermé area should be of adequate dimensions and properly closed off, to ensure that no unauthorised person/s may gain access while vehicles are in the enclosure. It shall be adequately lit and have a firm dust-free surface. At least one hundred (100) square metres of the parc fermé should be securely fenced off.

30. SCALE

Where applicable, calibrated scales (preferably together with test weights to confirm the scale's accuracy) must be provided, to allow for the weighing of race vehicles. Refer to MSA GCR 142.iv

31. PRESCRIBED SCRUTINEERING AREA – PRE EVENT SCRUTINY

The area must be a minimum of thirty-six (36) square metres under roof with solid flooring and sufficient lighting to carry out technical checks. For checking the under carriage of cars there should be a hoist or below ground pit.

32. FIRE-FIGHTING EQUIPMENT

Sufficient firefighting equipment must be present. The same must be serviced regularly and in working order.

33. FIRE EXTINGUISHERS

These must be serviced on an annual basis.

34. FIRE ENGINE

Each circuit should have a fire engine/truck present or at a minimum on standby from local authorities.

35. TIMING OFFICE

The timing office is to be of an adequate size.

36. CLERK OF THE COURSE OFFICE/STEWARDS OFFICE

Each venue is to have a minimum of one (1) office that can be used for hearings held by the COC and/or the Stewards

37. MEDIA ROOM

Each venue should have a dedicated area for the accredited MSA media officers

38. COMMENTATING OFFICE

There needs to be an office/room for the commentators to operate from

39. PUBLIC ADDRESS (PA) SYSTEM

Each venue is to have a PA system to communicate messages to the competitors

40. INTERNET

Each venue may elect to provide internet access for use by Senior Officials and Timekeepers. This is not a mandatory requirement.

41. ABLUTION FACILITY'S

Each venue is to have ablution facilities for competitors and spectators. These need to be in compliance with local metro regulations as well as the MSA Environmental code.

42. MEDICAL ROOM/S

In compliance with MSA Appendix L and as per the MSA Medical Panel.

43. ELECTRICAL POWER

Electrical power is to be made available to all competitors in the pit area.

All race offices etc. are to have electrical power.

Tyre warmers are not to be plugged into the venue electricity supply, unless this is specifically allowed at the said venue. Competitors are to supply their own power for tyre warmers.

44. RACE OFFICE

A dedicated race office for documentation and the Secretary of the Meeting to work from must be available. The Office must be of adequate size, have ventilation and provided protection for both the officials and competitors from all elements including weather such as rain and wind.

45. RACE CONTROL ROOM

The race control room must have radio communication for all officials.

46. MARSHAL EQUIPMENT & POSTS

a. Marshal Posts equipment

Equipment on Marshal Posts

b. Flag Points

The following is required at each point:

- i. A verbal link to Race Control
- ii. A full set of flags as described in Appendix H
- iii. At least one (1) nine kilogram (9kg) dry powder fire extinguisher.

c. Marshal Point requirements

- i. Sufficient Fire Extinguishers
- ii. Brooms, rakes, shovels
- iii. Cement or other material used to clean up oil spillages, and containers to facilitate the use thereof
- iv. Verbal link to Race Control
- v. Straps to facilitate the movement of a motorcycle with a length of at least 2m.

d. Marshals' Clothing

It is recommended that clothing worn by marshals should be orange (for example pantone 151C). When worn with any other clothing (e.g. jeans, etc.) these should not conflict with any other flag used on the circuit – refer MSA Appendix H.

Clothing should primarily be made of natural fibres, i.e. Cotton, and should exhibit a high degree of fire retardation. Raincoats should comply with the colours stipulated above or be transparent (see through).

47. VENUE MODIFICATION AND APPROVAL REQUIREMENTS

Notwithstanding GCR 69 and GCR 79 any venue may not make alterations to the circuit without prior approval from MSA in consultation with the MSA Safety Panel. This requirement applies to all modifications, including but not limited to:

- Track layout changes (corners, chicanes, straights)
- Run-off areas
- Barriers (Armco, tyre walls, etc.)
- Kerbing, surfaces, or elevation changes
- Pit lane entry/exit modifications
- Safety installations (fencing, debris fencing, marshal posts)
- Office facilities as required.

Before any work is done, circuit owners must submit:

- Detailed plans drawn to a 1:500 scale
- Risk and safety assessments
- Specifications of materials and safety systems

These plans will be reviewed by the MSA Safety Panel, and an inspection may be conducted before approval is granted. Once changes are completed the circuit must be **re-inspected**.

If a circuit owner makes changes without approval:

The MSA permit can be withdrawn and a fine may be imposed.

APPENDIX 1 – TYRE BINDING

Appendix 1

Tek Screw method to fasten tyre walls.



Tek Screw that may be used for tyre walls. Nut in right side photo from Gelmar



TEK Screws with washers being used to build tyre walls.

NOTE: for a nut (**compulsory**) the following can be used, a steel plate 40x40x2mm. A 4mm pilot hole can be drilled into plate for ease of self-cutting by the Tek screw.

Also, the Nut as per photo above from Gelmar can be used in conjunction with 40 mm Fender washer
40 mm washers **MUST** be used on both sides as illustrated in the FIA drawing